LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

analog

A Calendar of Upcoming Events

February 12-16, 1976:
STAR TREK CONVENTION at the Commodore Hotel, New York, NY. Membership limited to 6,000. Registration, $21.60 attending; $5 nonattending ($5.20 NY state residents, $5.40 NY City residents). Info: General Post Office Box 951, Brooklyn, New York 11201. Attending registration until 15 January 1976 only.

February 13-15, 1976:
BOSKONE XIII (New England Regional SF Conference) at the Sheraton-Boston, Boston, Massachusetts. Guest of Honor: Poul Anderson. Presentation of the Skylark Award. Registration: $5 in advance (until 1 February 1976); $8 at the door. Info: New England Science Fiction Association, Inc., Box G, MIT Branch PO, Cambridge, Massachusetts 02139.

February 18-24, 1976:
American Association for the Advancement of Science—Annual Meeting at the Sheraton-Boston, Boston, Massachusetts. Theme: Science and Our Expectations—The Bicentennial and Beyond. Info: AAAS, 1515 Massachusetts Avenue NW, Washington, DC 20005.

February 29-March 3, 1976:
Environmental Aspects of Non-conventional Energy Resources—Topical Meeting (ANS) at the Brown Palace Hotel, Denver, Colorado. Info: Douglas C. Hunt, General Chairman, Nuclear Safety Department, Rockwell International, PO Box 464, Golden, Colorado 80401.

September 1-6, 1976:
MIDAMERICON (34th World Science Fiction Convention) at Muehlbach Hotel, Kansas City, Missouri. Guest of Honor: Robert A. Heinlein; Fan Guest of Honor: George Barr; Toastmaster: Bob Tucker. Panels, talks, masquerade, films, presentation of the Hugos and the John W. Campbell Award for Best New Writer. Registration, $20 attending (until 1 May); $6 nonattending. Info: Post Office Box 221, Kansas City, Missouri 64141.

—ANTHONY R. LEWIS

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

WORLD'S SMALLEST ELECTRONIC CALCULATOR...$19.95!

Does Everything Big Ones Do

Small but mighty! 8-digit, 4-function electronic calculator even has automatic % key . . . *for only $19.95.* Take it anywhere. Carry it in your pocket or purse — it's ⅔ the size of a pack of cigarettes. This 3½-ounce dynamo features floating decimal, constant key, lead zero depression, clear entry, more! At Edmund's low price, the unit comes with a Ni-Cad rechargeable battery pack that can plug into any AC outlet. No need for special recharging adapters. Calculator overall is just 2 x 3½ x 9/16" with plenty of room for most fingers. *Another Edmund first with advanced technology.*

STOCK NO. 1945A ..... Only $19.95 ppd.

GIANT FREE CATALOG!

NEW 164 Pages. Over 4,500 Unusual Bargains for Hobbyists, Schools, Industry.

JUST CHECK COUPON!

COMPLETE AND MAIL COUPON NOW

EDMUND SCIENTIFIC CO. 300 Edscorp Bldg., Barrington, N. J. 08007

☐ SEND FREE 164 PAGE CATALOG "A"

BANKAMERICARD master charge

☐ Charge my BankAmericard

☐ Charge my Master Charge

Interbank No. _____

Card No. _____

Expiration Date _____

30-DAY MONEY-BACK GUARANTEE. You must be satisfied or return any purchase in 30 days for full refund.

Send me:

____ELECTRONIC CALCULATOR(S)

@ $19.95 ea. (No. 1945A) $_____

Service and handling charge $____.50

Enclosed is

☐ check ☐ m.o. in amount of $_____

Signature _____

Name _____
(Please Print)

Address _____

City _____ State _____ Zip _____

EDMUND SCIENTIFIC CO.
300 EDSCORP BUILDING
Barrington, N. J. 08007
America's Greatest Science • Optics • Hobby Mart

HELPING TO DEVELOP AMERICA'S TECHNOLOGY FOR OVER 30 YEARS.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

BEN BOVA
Editor
DIANA KING
Associate Editor
HERBERT S. STOLTZ
Art Director
EDWARD MC GLYNN
Advertising Sales Manager
GERALDINE IHRISKEY
Advertising Production Manager

Next Issue on Sale February 3, 1976
$9.00 per year in the U.S.A.
$1.00 per copy
Cover by Rick Sternbach

Vol. XCVI, No. 2 / FEBRUARY 1976

SHORT STORIES

A MARTIAN RICORSO, Greg Bear 10
THE BETTER MOUSETRAP, Hayford Peirce 27
THE WINNOWING, Isaac Asimov 54

SERIAL

CHILDREN OF DUNE, Frank Herbert 62
(Part Two of Four Parts)

NOVELETTE

A MATTER OF PRIDE, Kevin O'Donnell, Jr. 144

SCIENCE FACT

THE DISCOVERY OF THE GYPSY,
Richard A. Carrigan 34

READER'S DEPARTMENTS

THE EDITOR'S PAGE 6
THE REFERENCE LIBRARY 169
THE ANALYTICAL LABORATORY 173
BRASS TACKS 174

COPYRIGHT ©1976 BY THE CONDÉ NAST PUBLICATIONS INC. RIGHTS RESERVED. PRINTED IN THE UNITED STATES OF AMERICA. Analog Science Fiction/Science Fact is published monthly by The Condé Nast Publications Inc., Condé Nast Building, 350 Madison Avenue, New York, New York 10017. S. I. Newhouse, Jr., Chairman; Robert J. Lapham, President; Fred C. Thormann, Treasurer; Mary E. Campbell, Secretary. Second class postage paid at New York, N. Y. and at additional mailing offices. Subscriptions in U.S. and possessions, $9.00 for one year, $16.00 for two years, $21.00 for three years. In Canada and Mexico $10.00 for one year, $18.00 for two years, $24.00 for three years. Elsewhere, $12.00 per year, payable in advance. Single copies in U.S. possessions and Canada, $1.00. For subscriptions, address changes and adjustments, write to Analog Science Fiction/Science Fact, Box 5205, Boulder, Colorado 80302. Six weeks are required for change of address. The editorial contents have not been published before, are protected by copyright and cannot be reprinted without the publisher's permission. All stories in this magazine are fiction. No actual persons are designated by name or character. Any similarity is coincidental. We cannot accept responsibility for unsolicited manuscripts or art work. Any material submitted must include return postage.

POSTMASTER: SEND FORM 3579 to ANALOG SCIENCE FICTION/SCIENCE FACT, BOX 5205, BOULDER, COLORADO 80302.

Editorial and Advertising offices. Condé Nast Building, 350 Madison Avenue, New York, New York 10017.
Subscriptions: Analog Science Fiction/Science Fact, Box 5205, Boulder Colorado 80302

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Klaatu Barada Nikto

CINEFANTASTIQUE Vol 4 No 4

You should recognize these words as the most famous phrase ever spoken by an alien, Michael Rennie as Klaatu in the 1951 film THE DAY THE EARTH STOOD STILL. In the Vol 4 No 4 issue of CINEFANTASTIQUE magazine we present the story behind the production of this, the most beloved science fiction film of all time. In discussions with nearly everyone connected with the making of the film, from director Robert Wise to author Harry Bates whose novelette "Farewell To The Master" served the film as inspiration, writer Steve Rubin has pieced together the story behind the creative genesis of a science fiction film classic!

To illustrate this fascinating behind-the-scenes story are numerous photographs of the film and the people who created it, including 3 pages in beautiful full color. Pictured at right is the issue's evocative full color cover painted by Vincent Di Fate, which aptly sets the mood for this memorable article. CINEFANTASTIQUE is a unique experiment in publishing, a glossy, full-sized 8.5 x 11 inch, 48 page magazine devoted seriously to the intelligent examination of science fiction, fantasy and horror in the cinema. Also in the same issue is "Tripping Through Ellison Wonderland" a production article on the filming of Harlan Ellison's Hugo Award winning story A BOY AND HIS DOG, including an interview with science fiction's enfant terrible himself. So order your copy of this exciting issue today, by taking a no-risk trial subscription.

CINEFANTASTIQUE, P.O. BOX 270, OAK PARK, ILLINOIS 60303 USA

Rush me Volume 4 Number 4 of CINEFANTASTIQUE and bill me $10.00 for a one year, four issue subscription. I understand that if I am not satisfied with the magazine for any reason I may return it and pay nothing. I will also receive details about the fifteen back issues still available.

Name .....

Address .....

City ..... State ..... Country .....

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

THE equalizer

As science fiction people, we are constantly interested in the effects that technology has on the human race, both on individuals and societies. In general, it appears that technology has had two continuing major effects throughout human history.

First, technology has enormously expanded the capabilities of human action. From a naked ape shivering in Ice Age cold, we have become the dominant life form on this planet, armed with a steadily more powerful technology that began with fire and is now reaching for controlled thermonuclear fusion.

Second, technology has often become an equalizer, a leveler of physical, social, and individual differences. David could never have bested Goliath without the primitive but effective technology represented by his sling. And the more sophisticated technology of the wild American West, a scant century ago, was highlighted by the popular six-shot Colt revolver: the Equalizer that made a little guy as strong as the biggest bully.

(Today, of course, the Equalizer has metamorphosed into the Saturday Night Special, and any psychotic can become as strong as the President of the United States.)

Technology has often been used as an Equalizer. But not always. And never when a new technology was first invented. New technological ideas cause social upheavals, so new technological ideas have been either suppressed by society's rulers, or used by them to make their grip on society more secure. It is only after some time passes—often a great deal of time—that the new technology filters down to the masses and they use it to better their position. Usually the new technology is accompanied by, or perhaps it even triggers, a new social concept.

Since the development of agriculture, some ten thousand years ago, technology has been a weapon used both by rich and poor in their unending battle against each other.

Paleolithic hunting tribes had no

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

poor. Everyone who was physically able to, worked. Those who could not usually died very quickly. The tribe's leaders were generally elected in a rough form of democratic politics, although the tribal shaman—ancestor of today's priests *and* scientists—usually had to acquire his job by exhibiting special skills.

There was no hierarchy, no self-perpetuating elite class. Studies of the few hunting tribes left alive in remote corners of today's world show that this social system works quite well, *given* a short life expectancy for the individual tribe member and a ruthless determination (forced by the chronic undersupply of food) to get rid of nonproductive members. Paleolithic hunting tribes fitted into their local environment very well; they caused no ecological damage that the environment could not easily absorb and repair.

Neolithic farmers changed all that, a hundred-odd centuries ago. With farming, the land itself became important, so important that it was made sacred. We still hear references to "the soil of our nation," as if the dirt itself had mystical qualities.

The Neolithic revolution brought about such abundant food supplies that humanity went through its first population boom. Civilization was invented, complete with cities, writing, class differences, and war; all the essential features we have today. The technology that developed the plow and the wheel led to a social hierarchy with a few very rich top dogs lording it over the peasants. The new elite class quickly made itself hereditary, and created standing armies not so much to attack other hereditary rulers, but to keep the peasants in their place. And the elite used special knowledge, such as writing and astronomical predictions of the seasons, to help control the masses.

Despite occasional experiments in democracy, as in Athens and Rome, agricultural societies were ruled by central elites, usually self-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

perpetuating, while the masses of people followed their orders. It wasn't until the chaotic times of the Renaissance, when new technology introduced terrible inventions such as gunpowder, printing presses, and deep-ocean sailing vessels, that the old order started to crumble.

What arose from the Renaissance was a bold new idea, the concept of the *nation.* It took a long time for the idea to filter down to the peasants; indeed, Napoleon's armies carried it with French fervor across the breadth of Europe, and this very concept of nationality was quickly turned against the French Emperor, whom the new nationalists of Germany, Austria, Hungary, Poland and Russia came to regard as a foreign enslaver.

In the meantime, a Europe of nations was using gunpowder and deep-ocean ships to conquer the rest of the world. India and Asia, with their mystic wisdom and ancient civilizations, became vassals of Europe. So did the New World, although the distances between Europe and North America helped to allow the Americans to form their own ideas about society in semi-isolation, and led to a succession of revolutions that eventually liberated both North and South America from European control.

What happened in our own nation is instructive. Colonies of Great Britain developed their own life styles, and adapted to their North American environment over the course of a half-dozen generations. At first, all their technology was imported from the Mother Country, but soon enough the Colonials were making their own plows and horseshoes, their own muskets and shot. They had become, in fact, independent of Britain. It was when the Mother Country threatened that pre-existing *de facto* independence that the political ties were severed and independence was loudly proclaimed and successfully fought for.

The technology of gunpowder had "trickled down" to the hands of the peasants. Once the exclusive property of kings, gunpowder was now used by farmers to shoot the red coats off the king's armies. And those farmers were no longer peasants, either. They were independent yeomen who owned their own slice of the universe, and soon became the sovereign power in the world's first broadly-based democratic form of government.

Gunpowder, ocean-going ships, and the printing press (an invaluable communications device) helped to produce a new form of society: popularly-elected democratic government. The people who were once peasants had become the equals of their former rulers.

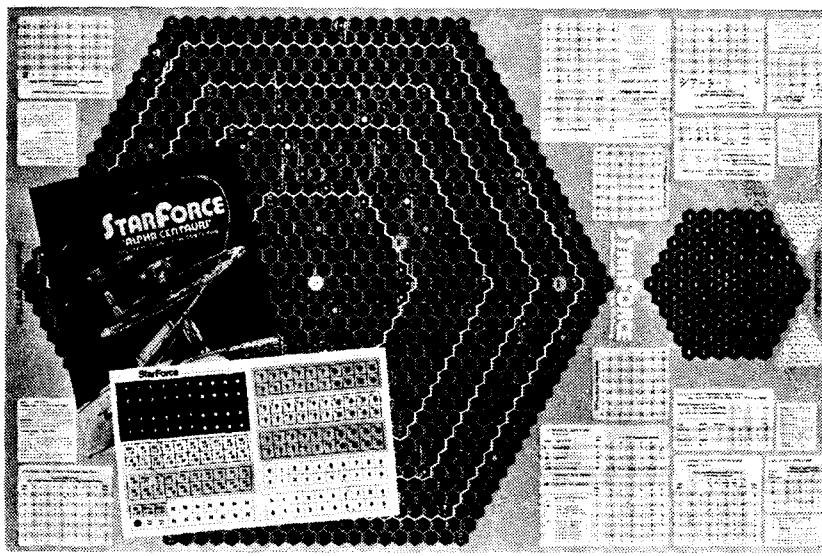
Today, technology is "equalizing" the political imbalances of earlier centuries. The former colonies of Europe have seized on the idea of nationalism, formed them-

continued on page 177

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

STARFORCE

Interstellar Conflict in the 25th Century



A Future-History Space War Simulation

StarForce is serious science-fiction in game form. You command the space fleets of the Human, L'Chal-Dah, Rame and Xenophobe races as they fight for control of the 74 star-systems depicted on the forty light-year "Stellar Display". The future becomes history in fourteen scenarios simulating wars taking place from 2405 to 2785 A.D. StarForce fleets, StarGates, interstellar flight, tactical space maneuvering, empires and revolutions, induced novas, a written future history, a rescue mission - **StarForce** has all this and more! A big 22"x34" game map, 200 playing pieces, and a 24-page, illustrated rules booklet packaged in a beautiful, compartmented plastic box...all for only $8 direct from *Simulations Publications, Inc.*, publishers of Strategy & Tactics Magazine.

Send check or money order to:
Simulations Publications, Inc., Dept. 638
44 East 23rd Street, New York, N.Y. 10010

Please send me the following simulation games:

- ☐ **STARFORCE,** Interstellar Conflict in the 25th Century. $8
- ☐ **World War III,** Global Warfare in the '70's. $8
- ☐ **The East Is Red,** The Sino-Soviet Conflict. $8
- ☐ **Seelowe,** The German Invasion of Britain. $8

Enter my subscription to **Strategy & Tactics**, the military history *magazine with a simulation game in it!*

- ☐ **1 year** (6 issues): $14.00
- ☐ **2 yrs.** (12 issues): $26.00
- ☐ **3 yrs.** (18 issues): $36.00
- ☐ **6 mos.** (3 issues): $9.00
- ☐ send free brochure

name _____

street _____ apt# _____

city _____ state _____ zip _____

Prices apply to U.S. & APO/FPO. Foreign orders subject to handling charge. Prices are subject to change without notice.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

A MARTIAN RICORSO

Every vehicle we send to Mars sends back a new and different picture of the planet. When men land there . . .

GREG BEAR

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

It's a night when the cold and the dark and the stars are so intense they make music—a faint tinkle of ice xylophones, played with random fingers. It may be the frost tipping against the metal of my suit tanks, or . . . maybe it's for real.

I'm almost afraid to move, or breathe very deeply, as I dictate this into the pocket recorder, lest I disturb something holy—God's sharp scrutiny of Edom. I'm out here, not being entirely sane, to order my thoughts about what has happened.

They came just a few hours ago, like a wave of five-foot laboratory mice on their hind legs, and put the punctuation mark—a period—on what I was thinking at the moment they stormed and tried to knock the ship over. Schiaparelli was right. And Percival Lowell, of my own home state—he was not as errant an observer as we'd thought.

I have a few hours before I return to the lander for sleep. I can last here in the cold that long, though the loneliness may weigh on me sooner. Tomorrow morning we're going to brace the crumpled absorber pads starboard and rig an emergency automatic release for the RATO units on the glider. Her wings are already partially spread for a check—we did that just before the Winter Troops attacked—and we've finished transferring fuel from the lander to the orbit booster. When the glider gets us up above the third jet stream, by careful tacking we hope to be in just the right position to launch our little capsule up and out. A few minutes burn, and we can dock with the orbiter if Willy is willing to drop a few kilometers to pick us up.

If we don't make it, these notes will be all there is to elaborate, at some future date, on what has stopped us from getting back. I'll put this tape into the lander telterm, with other recordings and flight recorder in annotated bits alongside, and instruct the computer to store it all on hard-copy plastic cards. The dust storm which lobbed a boulder at our directenna (and thereby forced me to this expedient) subsided two days ago.

Here's the situation on communications. Our directenna is gone, which means we can no longer communicate directly with Earth. We are left with the capsule radio, which Willy can pick up and boost for re-broadcast to Earth. There's a communicator on the glider body as well, but that's strictly a short-range affair, little more than a sounder. So we have somewhat garbled transmissions going out, fairly clear coming back, and about twenty minutes of complete blackout when Willy is out of line of sight. There's a possibility we will be able to hit Willy with the surveyor's laser, modified for signal transmission. That could sharpen communications considerably. But for the moment, we're going to

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

save our time for important messages, like time of launch and approximate altitude calculated from the fuel we have left after the transfer piping exploded . . . was it three days ago? When the evening got colder than expected, and exceeded the specs on the insulation.

I'm going back in. It's a bit much out here—no moons out.

Now at the telterm, feeding in tapes and flight recorder and typing, too. Down to meaningful monologue.

We—Commander Linker, Lieutenant Commander Cobb, and myself, Lieutenant Mercer—have finished ninety percent of the local survey work and correlated it with Willy's mapping. What we find is very interesting.

At one time there were lines on Mars, stripes like canals. Until a century ago, any telescope could pick them out. As the decades went by, it was not the increased skill of the astronomers which erased them, but the end of the final century of the *Anno Fecundis.* Is my Latin proper? I haven't consulted yet.

With the end of the Fertile Year, a thousand centuries long, came the first bleak sandy winds and the lowering of the Martian jet streams. They scoured. The things must have been faerie palaces before they were swept down. I once saw a marketplace full of empty vinegar jugs in the Philippines, made from melted Coca Cola bottles. They used glass so thin you could break them with a thumbnail tap in the right place—but they held ten to twenty gallons of liquid safely and easily. These colonies must have looked like thousands of thin glass bottles, dark as emeralds, mounted on spider-web stilts and fed with water pumped through capillaries big as Roman aqueducts. We surveyed one field and found the fragments buried across a strip thirty miles wide. From a mile or so up the edge can still be seen, if one knows where to look.

It's Linker's theory that these ribbons were spread clear across the planet. Willy's preliminary mapping proved him correct. We could trace belts of ruins and fragments in almost all the places Lowell had mapped out—even the civic centers some of his followers said he saw. The aqueducts laced the planet like the ribbing on a basketball, and met at lake-sized black pools covered with glassy membranes. These were filled with liquid warming in the sun, a thin sort of resin undergoing, perhaps, photosynthesis. The resin was pumped at high pressure through tissue and glass tubes, nourishing the plantlike organisms which inhabited the bottles.

They were colonies, probably not intelligent. But their architectural feats put all of ours to shame, nonetheless. Sandstorms and the rapidly drying weather are still demolishing the delicate structures. Ninety percent have fallen already, and the rest are too rickety to walk

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

under. Yet they still are magnificent. Standing at the edge of a horizon-reaching plain of broken glass and shattered pylons, we can't help but feel very, very tiny.

A week ago we discovered they've left spores, deeply buried in the red sand. They're tougher than coconuts and the size of medicine balls. Six days ago, we found that Mars provides children for all her seasons. We came across a cache of broken leathery eggshells in a cavern shored with some sort of organic underground sticky. We didn't investigate far. But we did see that the walls of the cavern were covered with hexagonal geometric carvings, whether as structural aid or decoration, we don't know. Five days ago we saw our first Winter Troops.

We'd taken the sand sled thirty kilometers from Landing to investigate what looked like, from Willy's mapping, the last standing fragments of an aqueduct bridge in our area. More than sandstorms had been at the ruins. Eggshell caverns pocked the landscape. The bridges were resting on the seeds of their own destruction—packs of kangaroo-rat Winter Troops (so we named them immediately) were crawling over it like ants on a carcass.

Commander Linker snapped pictures enthusiastically. As the expedition's exobiologist, he was in a heat of excitement and speculation. His current theory is that the Winter Troops are on a programmed binge of destruction, genetically set and irrevocable. On the sled, he told us something similar: "It's like seeing old historians kicking heels in their graves! Out with the old, in with the new—it's Vico's historical *ricorso* redivivus, resurrected from the historian's boneyard!"

Cobb was less enthusiastic. His first reaction was a grumble, which I remember as, "Indiscriminate buggers!"

I had no immediate reaction. As with everything in my life, I decided to sit on my emotions and wait things out. But at the moment it looks like Cobb was correct. Unluckily for us, we rise above the ground and look suspiciously like a fragment of aqueduct-bridge. So, at this stage of their young lives, they're out to get us.

So far, no reply to our message requesting First Contact instructions. I have the intuition the message was garbled—it would match our luck so far. Earth seems content to send platitudes.

But enough of pessimism. Where does this leave us, so far, in our speculating?

We sit, gentlemen, on the edge of a cusp between cycles. We witness the end of the green and russet Mars of Earth's youth, ribbed with faerie bridges and restrained seas, and come upon a grimmer, more practical world, buttoning down for the long winter. We haven't taken any "samples" of the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

white Martians, so there's no way of knowing whether or not they're intelligent. They may be the new masters of Mars. How do we meet them—passively, as Linker seems to think we should, or Cobb-like, defending ourselves against creatures who may or may not be the equals of humankind? What can we expect if we don't defend ourselves?

Let your theologians and exobiologists speculate on *that*. Are we to be the first to commit the sin of an interplanetary Cain? Or are the Martians?

At any rate, it will take us nine or ten hours tomorrow to brace the lander pads. Our glider sits with her half-flexed wings crinkling and snapping in the rising wind, silver against the sienna of the Swift Plateau, now hit by sunrise, and the brightening cobalt of the horizon. Faerie bridges, faerie sky! Ice-crystal clouds flicker and flow with an auroral pattern, and the sky is black as obsidian. But just above the cobalt band of the horizon, the obsidian becomes hematite—it rainbows like carnival glass, possibly because of the crystalline dust being swept from the plains below the plateau. We can see dust-devils from the eastern rim, across the tortured canyons and rills of the Moab-Marduk range. They look like the pillars to a temple—Boaz and Jachin, perhaps.

I record a ten minute break from the above. Actually, I've been skipping to get brief winks of sleep between spells at the telterm all through, so why count now? But Willy has sent a message down to us. He says there seems to be construction in Edom Crater—recent construction. Hexagonal formations, walls, and what could be roads. From his altitude, they must rival the Great Wall of China. And they've gone up in the last few days. I feel more alienated now, unable to face Mars for what it really is. It's inconceivable that such monumental structures could be erected in so short a time.

Perhaps they were missed on earlier orbits.

But there were the other expeditions! We can excuse them missing the fields of bridge fragments—but nothing so obvious as what's now in Edom Crater. And how could Willy miss them, even allowing that? Everything's been charted three and four times, measured with radar and laser, correlated with the earlier expedition maps . . .

So there we have it. The colonies which erected the aqueducts were great architects of nature. The Winter Troops are also great architects—but intelligent? It doesn't seem to apply. They single-mindedly tried to destroy us. We didn't seriously hurt or kill any of them—Cobb beat at them with a roll of foil, and I used the parasol of the damaged directenna to shoo them away. But they might have been more concerned with the ship than

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

with us. The glider wings came perilously close to being shredded. We foiled and doped what few tears had been made before nightfall closed in. They should suffice, if the polymer binding is as good as advertised.

But our luck this expedition holds true to form. The stretching frame's pliers broke during repairs.

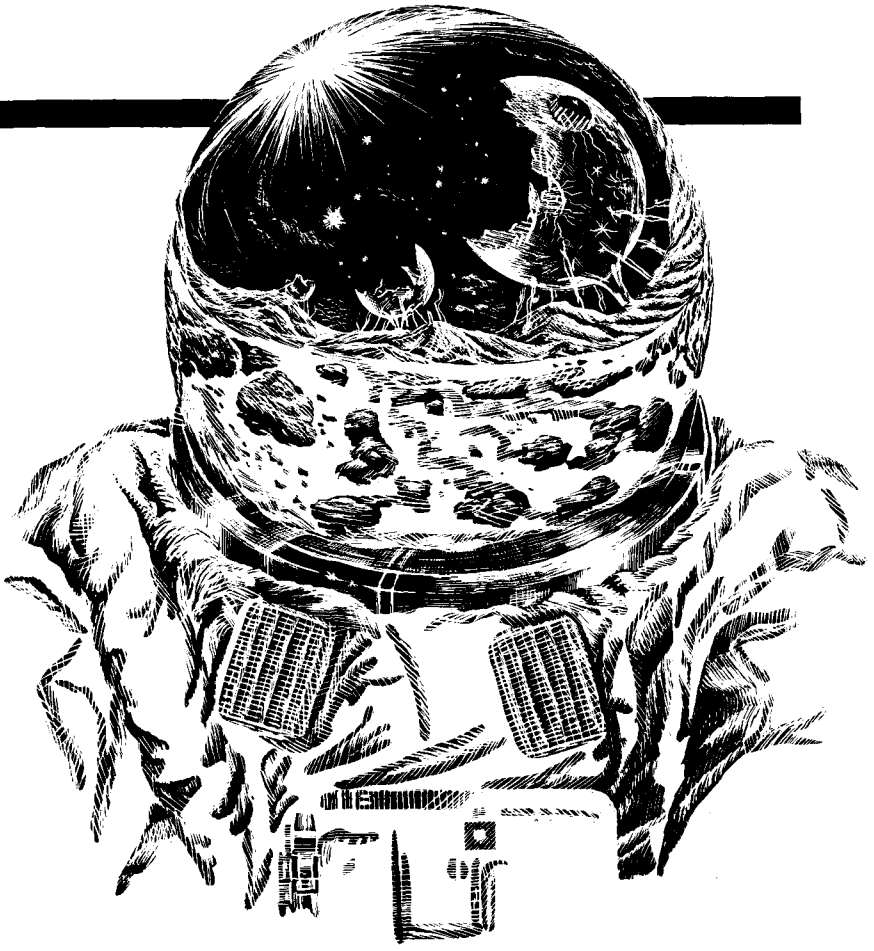
Cobb and Linker have had bitter arguments about self-defense. I've managed to stay out of them so far, but I have to admit my sympathies lie with Cobb. It may be impossible to avoid getting involved in the future. My instincts on self-defense don't stop me from feeling uncertain and guilty.

Both men are sleeping now. They've been working hard and their sleep is sound and the telterm clicking doesn't disturb them. I can't sleep. Not yet. My body is running on supercharge. I can't turn my thoughts off, and somehow I'm not ready to resort to tranquilizers. So here I sit, endlessly observing.

Linker is the largest of us. Though I've worked with him for three years now, and spent eight months in close quarters on the way out, I hardly know him. He's not a quiet man, but he constantly surprises. He has a way of bringing up his brows when he listens to talk, opening his eyes wide and dark and wrinkling his balding forehead, which reminds me of a dog cocking its ears. But it would have to be a devilishly intelligent dog. There's a good possibility I haven't plumbed Linker's depths because I'd go in over my head if I tried. He's certainly more dedicated than I am. He's been in the USN for twenty-one years, fifteen of them in the Space Subsidiary. He's a mustanger—he didn't get his commander's wings'n'sun by starting in the Academy. A man who reaches commander in twenty-odd years, without the boost the Academy gives, is no sloucher.

Cobb, on the other hand, can be read like a book. He tends toward bulk, not an evil amount of it but sufficient to give an air of massiveness, though he weighs little more than I do. He's shorter and works with a frown, for it takes twice his normal brainpower to get through a complicated task. I do him no injury by saying that—he gets the work done, and well, but it costs him more effort than it does Linker or myself. He is an Academy man, and in twenty-five years he's not gone as far as Linker. The extra effort sometimes takes the edge off his nonessential reasoning. He doesn't twist about rapidly on his mental feet. Linker and I once had

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



him close to tears on the flight out, by conversing on five or six interesting and complex subjects and switching topics every three or four minutes. It was a cruel game, of which neither of us are proud. But hell. Space has been billed as making children out of all of us, eh? A two-edged sword, I'm sure.

I have (as certain passages above might indicate) been thinking about the Bible lately. My old childhood Christian background has been spurred—hair of the dog that bit me—by looking over the Mars chart. We're not too far from Eden as gliders go. And, of course, we sit in fabled Moab, above the Moab-Marduk range, Marduk being one of the chief "Baals" mentioned in

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the Old Testament. Edom Crater—"Edom" means red, a very appropriate name for a crater on Mars. I have red hair. Call me Esau!

Mesogaea—Middle Earth (other hairs, other dogs).

The time is weighing a bit heavily on me. I've paused to weather out a bit of morning grumpiness between Linker and Cobb. It was actually an out-and-out argument, if the truth be known. Linker, still the pacifist, expressed his horror of committing murder against another species (*supra*, sin of Cain). His scruples have come late or are oddly selective, perhaps tainted with regret for his past—for he fought in Eritrea in the Nineties. Neither has pulled (nor beer restrained by) rank, which could lead to the really ugly confrontation we've managed to avoid so far. Three comrades, good and true, equal to the tolerance of different opinions—

Oh, God, here they come again! I'm looking out the port window of the Lander. They line a distant hummock, waiting like Indians. There must be five or six thousand of them. If they attack, it will mean nothing whether Cobb or Linker triumphs in our moral debate—we've had it. If they destroy the glider, or even rip a section of foil larger than we can stretch by hand, we're doomed to asphyxiation or starvation. Secretary to the expedition or no, I'm more concerned with other things now—

It was close. Cobb fired bursts of the surveyor's laser over their heads. Enough dust has been raised by the wind—though the air looks fairly clear—to make a fine display. The thing is powerful enough to poke holes in them should the necessity arise.

Linker—the poor fool has as much as said he'd rather die than extend the sin of Cain. I'm less worried about that sin than I am about lifting off. We've been delayed in bracing the pad. Linker's out below the starboard window now, rigging the sling which will keep that section of the glider body level when the RATOs fire.

Looks like fireworks to port now—more dust displays. A bad refracting telescope could duplicate the effect. Night is coming up quickly. It'll be too cold to work outside then. If the Winter Troops are water-based, how do they survive evening? With anti-freeze in their blood, like arctic fish? But can even anti-freeze maintain activity in temperatures fifty and sixty below? Or will we be out of danger until sunrise, with the Winter Troops warm in their kerchiefs, and we in our trundle-bed, nightmaring?

To that bed, soon, I will go. Sleep seems a preferable land. Until tomorrow.

I have helped Linker rig the sling. Cobb has mounted the laser on a television tripod—clever war-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

rior. Linker snappily advised him to beware fraying the power cord. Cobb looked at him with a sad sort of resentment and went about his work. Other than the few bickerings and personality games of the trip out, we've managed to keep respect for one another—until the last few days. It's been slipping. At one time I had the fantasy we'd all become lifetime friends, and years after would visit each other, compare grandchildren and the way things have changed (for the worse) since our retirement—quite a dream. Astronauts are, after all, a minority and minorities only survive when they cohere. Headlines: COLLEAGUE COHERENCE COLLAPSES. Dreadful thing . . . grandchildren mourn. If any such may be.

Steam rises from the hoarfrost which accumulated during the night—it vanishes like a tramp after dinner.

Should we want to send a message to Willy, we shall have to unrig the weapon stand and remount the laser—no major problem. The electronics has already been worked out. And it looks like we may have to resort to the laser soon. We're getting hash over the capsule radio on reception, and Willy reports his pickup is deteriorating. There would have been no problems with the directenna.

There were more ice falls during the night. Linker kept track of them. My insomnia has been transferred to him, I'm afraid—ideal for standing watch. Ice falls are less mysterious here than on Earth—through a far thinner atmosphere, the leavings of the asteroids come through more easily, and we are nearer that interplanetary haze of stones. At any rate, a block the size of Linker himself came to within sixty meters of the port wing of the glider, and gouged an impressive crater. Bits of it were scattered around before the impact-melt, and Linker has preserved a fist-sized chunk in the freezer. We will take it back with us. It has cool iceplants, dendritic fractures in its interior, like a huge opal the way it glitters. It may not be asteroidal. It may be atmospheric, picked up by a jetstream bending low over the pole; hurled along and dropped haphazardly, impregnated with the same dust which makes the horizon flicker rainbows at us.

Another break. We've received a relay message from Willy. Control has tried to decode our garbled transmission about First Contact. Apparently they decided we were joking around. Here's part of the transmission:

"Dr. Wender advises on Martians . . . (hash) . . . some clear indication of ability to fire large cylindrical bodies into space. Beware things walking on tripods. Second opinion from Franklin Corvus . . . Not all green Martians are Tharks. Wants sample from Dejah Thoris—can you arrange for egg?"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

I put on a pressure suit four hours ago and went for a walk after the disappointment of the transmission. Linker suited up after me and followed for a while. I was armed with a piece of aluminum from the salvaged pad. He carried nothing.

Swift Plateau is about four hundred kilometers across. At its eastern end an aqueduct apparently hoisted itself a kilometer or so and vaulted across the flats, covering fifteen kilometers of the uplands before dropping over the north rim, and down into the Moab-Marduk Range. Our landing site is two kilometers from the stretch of fragments. Linker followed me to the edge of the field of green and blue glass, keeping silent, closely watching the Lander as if he expected something to intervene. I had a notebook in my satchel and I started to sketch some of the spires the Winter Troops hadn't yet brought down—none over four meters tall.

"I'm afraid of them," Linker said over the suit radio. I stopped my sketching to look at him.

"The Martians? Why?"

"Because of what they might bring out in me, if I give them half a chance. Hatred."

"Not even Cobb hates them," I said.

"No, I think he does, but he has reason to. He's afraid of them. Not in the same way I am. He's afraid for his life. I'm afraid for my self-respect."

I shook my helmet to show he was beyond my reach for the moment. "Why would you hate them?"

"The same reason I hate anybody I can't understand," he said. "When I was in Eritrea—the Nationalists. I didn't understand them. They and the Commintern and the Right African Catholics—three groups, none of them rational. I hated them all, even the ones we were supposed to be supporting."

"The Martians aren't Africans," I said. "We can't expect to understand them."

"It comes back double, then," he said. "I hate myself for not being able to—" He stopped and his radio clicked off. He held up his hands and started to walk back toward the Lander.

Our automatic interrupts clicked on and Cobb spoke to us from the capsule. "That's it, friends. We're blanketed by hash and I can't get through to Willy. We're going to have to punch through with the laser."

"I'm coming back, Cobb," Linker said. "I'll help you set it up."

In a few minutes I was alone on the glassy field, sitting on a weathered, pocked boulder. I made a map of the directions from which we had been attacked, and compared them with the sites of the eggs we had found. What I was

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

looking for was a clear pattern of migration—say, from the hatcheries due southwest, or something of that sort. Nothing conclusive came of it.

I looked up from my notebook and jumped to my feet so fast I twisted my ankle. Two white Martians were staring at me with their wide, blank gray eyes, eyelashes long and expressive as a camel's, three hands and two legs trembling like mouse-whiskers, not nervous but constantly ready. We'd been too involved fending them off before to take careful stock of their features. Now, stalemated, I had all the time in the world.

Three long, webbed toes, leathery and dead-looking like sticks, met in an odd two-jointed ankle configuration which even now I can't reproduce on paper. Their thighs were knotted with muscles and covered with reddish-white fur—not pink, but stippled. They could (I knew by experience) hop or run like frightened deer. Their hips were thickly furred, and their trunks defied my years of training in biology by ending the bilateral, and beginning a trilateral symmetry. Three arms, each intricately and confusingly fingered at the ends, each bendable in several directions, met at ingenious triangles of shoulders, rising to short necks and mouselike faces. Their ears were mounted atop their heads and could fan out like unfolding directennae, or be stored when rough stuff endangered them. They were not slow, and I had no idea what they ate, so I didn't make false moves.

One whickered for all the world like a terrestrial horse. The noise must have been impressively loud to reach my helmeted and weak ears. It looked behind itself, twisting its head one-eighty to bite at a tuft of hair on its hind shoulder. The behind-arm rippled appreciatively at the scratching. Then, parrot-like, the head returned to calmly gaze.

After a half hour, I sat down. I could still see the Lander and the linear glint of the glider wings, but there was no sign of Cobb or Linker searching for me.

I was getting cold. I slowly checked my battery pack gauge and saw it was bouncing on low. I stood up and brushed at my long johns. The Martian on my right reached out with its behind-arm, handed something to a forearm, and held it out to me. It was a green, fibrous piece of girder from one of the aqueduct bracings, about fifty centimeters long and chewed all around. I hesitated, but with little else to do, I reached out and accepted the gift.

Then the two twisted around and scurried across the plateau, vanishing into the aqueduct field in minutes.

Holding my gift, I walked quickly back to the lander. My feet were numb when I arrived.

The tripod was lying on the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ground and the laser was nowhere to be seen. I had a moment's panic that the Lander had been attacked while I was away, but there were no signs. I went to the Lander and climbed into the primary lock.

Inside, Linker was clutching the laser in both hands. One finger rested lightly, theateningly on the unsheathed and delicate ruby rod. Cobb sat fuming on the opposite side of the cabin, effectively held at bay.

"Cobb, what in hell is going on here?" I asked.

"Listen, Thoreau," Cobb said sarcastically, "while you were out communing with nature and finding books in babbling brooks, Mr. Pax here decided to make sure we don't harm the darling little creatures."

"Linker," I said, more irritation than anger in my voice. "What do you think you're doing?"

"I'm not sure, Dan," he answered calmly. "All I know is I have a firm conviction. I have to be firm. Otherwise I'll be just like you and Cobb."

"I've got a conviction, too," Cobb said. "I'm convinced you're nuts."

"You're seriously considering breaking that rod?" I asked.

"Damned serious."

"You know, we've got other things we can fend them off with if we have to," I said. "But we

haven't got anything at all to talk to Willy with if that's gone."

"Cobb saw two of the Winter Troops and was going to take a pot shot at them."

I turned to Cobb and looked at him wonderingly. "Jesus, Cobb, is that true?"

"I was taking a sighting on them—"

"Were you going to shoot?"

"It was convenient, and they might have been the vanguard for another rush—"

"And *I* was the one who had trouble getting on this trip! You two rational test-pilot scientist types were the sure things, obviously needed to extend a rational glow over everything—"

"I'm not sure it's rational," Linker said, eyes doglike, trying to

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

find understanding, or a way to understand himself, in my own look.

"Damn right it isn't! This writer-poet-cum-technician here, dear old me, I was the uncertainty, the first to be scrubbed if it ever came down to that! And now I find I'm the only goddamned adult on the ship!"

"I'm going to do everything possible to make sure we survive," Cobb said. "If that includes killing a few Martians, then I will do that. If it means overruling the senior officer in the crew, then I will do that."

"He wouldn't take an order," Linker said. "That's more than insubordination—that's mutiny."

"I don't think the charges will stick," I said. "Your sanity can't be vouched for. Nor can yours, Cobb, taking pop-shots at alien beings. I don't know how much of the First Contact directives have been scrubbed from the training manuals, but in spirit if not letter, Linker is closer to the ideal than you are."

"This isn't getting us anywhere," Cobb said. "What we should be doing is testing the bracing on the pad and leveling the field in front of the glider. When we get that done, then we can get out of here and solve all our problems. And to do that, we'll need the laser."

Linker nodded. "That can be arranged," he said. "We'll just agree not to use it for anything but communicating."

I looked at Cobb.

"OK," he said quietly, "but there's going to be a hell of a lot of flak passed around when we get back."

That, I thought, was an understatement.

It's obvious to me now that I'll never see this record in any sort of print but that labeled Top Secret, not to be released. Who can gainsay the judgment of the people who've put four landers on Mars, and brought them all back? Not I, humble—as Cobb said—Thoreau on Mars.

I brought out the Martian's gift from my sack as the laser was being mounted in the Lander. Linker examined it with interest and asked where I'd picked it up. I told them about the two Martians and Cobb looked sheepish.

"Did they chew on it while you were there?" Linker asked.

"No," I said. "I assumed they were just offering food."

"It's more than food. It looks suspiciously like stick-writing. The Irish and Britons used something similar as an alphabet and code. Notches on the side of a stone or stick—but this is much more complex. Here—there's an oval, and it has—" He counted with his fingers. "Five long marks beside it, and one mark about half the length of

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the others. That's about equal to one Deimotic month—five and a half days." He sniffed it. "Each of these chew marks seems to have a different smell."

"Maybe they piss on it like a dog," Cobb said. I shot him a withering look.

"Could be," Linker said. "I don't think all of them have reached a high-level technology yet."

"What?" Cobb asked. "Technology?"

"They've built the walls and structures Willy saw, and I don't think any of us can doubt they're intent on altering their environment. Unless we make asses out of ourselves and say that's no more significant than a beaver dam, we have to say that they're advancing to a technological level. They might even use scented sticks for relaying information."

"What, a subpoena?" Cobb snorted.

We are all acting like children now. Cobb and I are sulky, snappish, cramped and frustrated. Linker is absorbed in the stick. As I write, Cobb has gone outside to see how long it will take to clear the glider path. The sleds have been deployed. I've finished tamping the supports on the pad.

The glider and capsule have checked out. The messages from Control show concern, but of course no knowledge at all of what we're going through. In an hour we'll punch a message through to Willy and give our estimate on launch and altitude for pick-up.

We've got another message from Willy already. He says most of Mesogaea and Memnonia have been covered with walls. Meridiani Sinus, according to his telescope observations, has been crisscrossed with roads. The White Martians are using the sand-filled black lakebeds for something.

And Edom Crater is as densely packed as a city. All this in less than two days.

I'm going to break again and supervise the glider power-up.

Linker and Cobb are dead. We had just tested the RATO automatic releases when a horde of Winter Troops marched across the plateau, about ninety deep and a good four kilometers abreast. I'm certain they weren't out to get us alone. It was one of those migrational sweeps, like a screwy sort of survey team, blindly intent on relearning the entire geography of Mars, and incidentally leveling all structures from the last cycle. They gave us our chance—we didn't reply to their message.

Linker had just finished clearing the glider path of obstructing rocks and boulders, using his survey tools to determine the lines the sleds would draw across the sand and gravel. He was caught a half-kilometer from the Lander. I think he was just trampled to death. They

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

were moving much faster than a man can run.

Cobb knew exactly what to do. He hadn't mounted the laser completely—left it just loose enough that he could bring it down and have it ready for hand use in a minute's notice. He brought it down, took it outside the ship with cord trailing, and caught the Martians just as they were about to hit the glider. There are dead and dying Martians all along the path. They paid their casualties no heed—did not bother with us, either. Just pushed around and through. Cobb kept them out of our small bit of ground. He was killed when the laser cable frayed and wrapped around his foot. They were gone by then.

They swept over the plateau and vanished over the rim. They must be able to climb like monkeys.

The laser is gone, but I already have Willy's feedback for launch time, and that's all I need for the moment. The glider is powered and ready. I'm going to launch it by *myself*, just when Willy's orbital position will be timed to coincide, give or take fifty or sixty kilometers, with my path. The glider and capsule can keep me locked on his beam with their docking receivers and computers until fuel runs out. By that time, I'll be above the atmospherics—but it won't matter much. Everything will be automatic.

I'll be in orbit.

PYRAMIDOLOGY

LEARN ABOUT THE IMPORTANCE OF THE PYRAMID IN GENERATING BIO-COSMIC ENERGY.

For further information and an extensive listing of Pyramid Related Books and Products, send 25¢ to:

CHEOPS PYRAMID CO.
8143 - D Big Bend
Webster Groves, Mo. 63119

The glider wings are crackling in the wind now. The wind is coming at a perfect angle, about one hundred fifty kilometers an hour—I can launch into it with RATO power to spare, and swing around to ride.

I trust in an awful lot now that Linker and Cobb are gone. I'm transferring hard copy from this computer to the capsule.

This switch-over to pen and paper will carry me through until I can reach Willy. I can't stop writing. The computers are waiting now for just the right moment and I, the chronicler, sit helpless and wait. My last instructions to the machinery consisted of a command via three buttons and an interlock

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

switch to expand the airfoils to take-off width. They checked OK. They are flat now, waiting for the bite of wind during RATO fire. They'll drop into the proper configuration, dragonfly's wings, when I'm up.

I spent some time learning Martian anatomy as I cleared the path. There are still lots of them out there. It'll be a lumpy ride.

I think I'm going to be sick. Here it comes.

RATOs off.

(Scrawled quickly) I'm in third jet-stream now. I'm in second wing-mode—fore and aft foils have been jettisoned, and I'm riding directly into the black wind, can see stars, can see Mars below. I'm putting out my signal for Willy.

Third wing-mode—all wings jettisoned, fuselage jettisoned, falling—my stomach says—now main engines fire, and can see the glare, can see the wings far down to port, twirling like a child's toy.

In low, uncertain orbit. Willy's coming.

We're making our last orbit before we go home. Willy looked awfully good. I climbed inside of him through the transfer tunnel and requested a long drink of miserable orbiter water. "Hey, Willy Ley," I said. "You're the most beautiful thing I've ever seen." But of course all he did was take care of me and not say a word. He only communicates in five-phase polybit. But he was the only friend I had left. I talked with you people just half an hour ago, and now I'm sitting by the telescope, doing my own surveying and surmising.

So far, I can see they've zoned and partially built up Mare Tyrenhum, Hesperia, and Mare Cimmerium. They've got something I can't decipher going on in Aethiopis, and I'm sure by now they've got the old expedition Landers in Syrtis Major and Minor. They probably headed for them beeline—there are no aqueduct ruins in the area. What they'll do with them, I don't know. Maybe add them to the road-building material.

Maybe not.

We have no idea what they're like—no idea at all. We can't. They move too fast. They may not be intelligent in the way we think we are. But they do *move*. Perhaps they're just resurrecting what their forebears left them fifty, a hundred thousand years ago—before the warm, wet spring of Mars drove them underground, and brought up the sprouts of the aqueducts.

At any rate, in less than two weeks, from cradle to sky they've gone.

I've seen their balloons.

And I've seen the distant fires of their rockets, icy blue and sharp like hydroxy torches. They just seem to be testing. In a few days they'll have it.

Beware, Control. These brave lads will go far. ■

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

THE BETTER MOUSETRAP

When someone speaks about
ecological balance,
he naturally assumes that the balance
pivots around himself.

HAYFORD PEIRCE

KELLY FREAS

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

He was put in jail, of course.
For life plus ninety-nine years.
But was paroled after seven.
Naturally.
Which didn't change his firmly-held conviction:
That soft-headed judges and the mollycoddling of criminals were directly responsible for the Permissive Society.
Or vice versa.
He wasn't sure which, but knew it was one or the other.

He came before them on a warm spring afternoon, a short, stout, florid man wearing an 800-dollar suit. He was not a Captain of Industry, but rather an Admiral. Earlier in his career he might have been termed a Chief of Naval Operations.

But that was before he had invested 20 million dollars of his own, 400 million of his company's, and 700 million of a consortium's, into the largest nuclear-powered public utility ever constructed. It provided electricity and fresh water for 30 million people.

In its second month of operation it was shut down by a permanent court injunction sought by a Committee of Concerned Citizens. Its thermal effects on the Pacific Ocean were such that the mating habits of the great-necked gander had been adversely affected: the birds were now obliged to migrate to Canada.

So Owen Flairman was busted down through the ranks to mere Admiral.

He still had a few things going for him, of course, a cartel or two, a bank account here and there, a never-empty pot of Iranian caviar in the refrigerator of his Pullman Mercedes, but it had been some time since Howard or H.L. or J.-Paul had *personally* returned his calls.

Which rankled.

The Committee was composed of the Vice-President and the White House Chief of Staff, high-rankers from Interior, Commerce, Environment, Defense, and the Consumer Protection Agency. Additional members were a Harvard professor, a California clergyman, a Village folksinger, a lady science-fiction writer, a Concerned Mother, a Wichita Falls birdwatcher. The body's official title was Joint Authorized Committee of Knowledgeable Americans on Sales and Services (JACKASS).

Its function was threefold: protection of the Ecological Environment; defense of the Untapped Resource; preservation of the American Way of Life.

By March of 1978 its power was second only to that of the Oval Office.

To JACKASS came Owen Flairman, flanked by three of his aides.

The antipathy was mutual and instantaneous.

Owen Flairman scowled, grimaced in distaste, nodded rudely in

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

random directions. JACKASS found him of repugnant fascination, from his 35-dollar haircut to his 300-dollar Italian shoes. Owen Flairman sat.

"Well?" he snapped. "I'm a busy man."

Environment replied, a fussy little man in gold-framed spectacles. "We have heard, sir, that your company, or rather, *one* of your companies, is about to place on the market a device which may have inestimable consequences. We are here, as directed by law, to attempt to estimate some of these consequences, heh heh."

Owen Flairman cleared his throat threateningly, as if preparatory to spitting at Environment by way of response. The fingers of his right hand drummed a staccato tattoo upon the arm of his chair. Defense leaned forward avidly: would he really have a stroke?

No. Owen Flairman sighed noisily, honked his nose into a handkerchief, and said mildly, "You are referring, I assume, to my patented pest-catcher?"

"Exactly," said Interior. "We have heard that—"

"It is the greatest advance since Hamelin," finished Owen Flairman flatly. He snapped his fingers. "Jameson."

An aide posed a black box upon the table, pushed a button.

Nothing happened.

"A demonstration model," said Owen Flairman blandly. "Much smaller than the production model. Still, I have no doubt of its—"

There was a sustained buzzing, gradually growing louder, as of a thousand flies. A moment later the committee room was filled with a thousand flies, dashing frantically at the black box.

JACKASS shied back in confused revulsion.

Owen Flairman smiled and waggled a finger. The aide pushed another button. The flies began to mill about aimlessly, some of them attracted back outside by the savory aroma of the Potomac River.

"Really, Mr. Flairman," expostulated Commerce, "you hardly—"

He was interrupted by a shrill scream from the Village folksinger, who was simultaneously demonstrating surprising agility in jumping to the top of the table. Other screams followed shortly.

"Dear, dear," said Owen Flairman benignly. "Rats." He waved his hand negligently, and the button was thumbed. The rats made their escape, scurrying quickly.

"Disgusting," gasped the Concerned Mother, her ample breast heaving with the impetus of stern emotion.

"Outrageous," trilled Environment.

"How does it work?" asked Defense with some interest.

Owen Flairman shrugged. "Ultrasonic emissions, they tell me. They can be tuned to attract vari-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ous species of flies, mosquitos, and of course rats."

"Ridiculous," snapped the lady science-fiction writer. "The idea's as old as the hills. Also impossible."

"If you say so, lady," said Owen Flairman, glaring balefully. "All I know is that with this gadget within a year the world will be rat-free, mosquito-free, and fly-free. Free from malaria, yellow fever, filariasis, sleeping sickness, and every other disease transmitted by these pests."

The Harvard professor sniffed.

"Food production will rise," continued Owen Flairman doggedly, "fewer people will starve. Five to ten percent of India's food, for example, is estimated to be eaten by rats."

The birdwatcher snorted.

Owen Flairman tried to wither him with a glance, failed. "Need I elaborate the advantages of a world without these pests?"

Commerce leaned forward. "You might elaborate what you're planning to do with that chain of filling stations you've acquired."

"And that dog-food company you purchased," added Interior.

Owen Flairman gritted his teeth. "Your finks have overlooked the trucking company. However. The filling stations because here in the United States they represent ideal locations. One at least in every city, town, and hamlet. The trucking company because of its refrigerator trucks, which will make regular visits to the filling stations. With a pest-caller in each truck. The dog-food company to process the thousands of tons of frozen flies, mosquitos, and rats which the trucks will deliver, into thousands of tons of tasty, nourishing, pleasant-smelling, rich, red, juicy cat and dog food."

"Yetch," gulped Defense, suddenly clutching his belly.

The Vice-President paled.

Owen Flairman smiled into the appalled silence. "Which, you will note, will *further* increase our national resources, as the foodstuffs and proteins currently used for mere animal food are diverted to more worthwhile purposes such as feeding human beings. As you can see, the entire operation has been soundly planned."

"To make *you* money with this loathsome idea," retorted the Consumer Protection Agency.

"Making money is still the American Way of Life."

"Yes," hissed Environment, "but-only-up-to-a-point. There are larger issues, greater concerns. Which is why *we* are here. To prevent short-sighted exploiters and despoilers from ravaging our national heritage and environment, from permanently damaging, perhaps, our Spaceship Earth's very flight-plan."

Owen Flairman had never suffered fanatics gladly, however well meant their intentions. "Ah," he said, "in the same way you're protecting our reserves of natural gas."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Among other things," said Environment hastily. "Now then—"

"By outlawing pilot lights on 27 million American stoves and ovens, eh?" Owen Flairman laughed abrasively, infuriatingly. "A masterstroke of wit."

"I will inform you, sir," replied the White House Chief of Staff angrily, "that by so doing we have conserved, for the American people, in the first year alone, 154 billion cubic—"

"And single-handedly saved America from a recession!" interjected Commerce. "With two million plumbers, gas-fitters, and handymen working overtime to remove dangerous and wasteful pilot lights, the gross national product—"

"Having first considered," continued Owen Flairman implacably, "all possible consequences of your action. Such as the sudden demand for millions, no, billions of matches, to light each individual burner how many dozens of times per day? The consequent deforestation of the entire Northwest while furnishing the wood for these matches? The resultant damage to watersheds, the horrors of the Great Flood, the—"

Environment had the grace to blush.

The lady science-fiction writer was made of sterner stuff.

"You are impertinent. You are not here to hector *us.* Quite the contrary," she admitted maliciously. "Your scheme is obviously absurd. You can't possibly have considered and weighed all of the possible consequences of such a major step as completely removing three major species from the ecological chain."

"You *like* flies, lady?" grated Owen Flairman, his eyes beginning to protrude dangerously.

"Of course I don't, nor rats either, it's just that such a drastic plan must first be *studied,* by qualified *experts,* who will *define* the *parameters*—"

"For instance," chipped in the Wichita Falls birdwatcher in didactic tones, "it is well known that Communist China's stringent campaign against flies in the 1950's had many unforeseen consequences."

"Sure," said Owen Flairman, his voice dripping loathing, *"no more flies!"*

"No more flies," pointed out the birdwatcher, "meant that over great areas of China the yellow-tailed starling—"

"You mean, like a *bird*?" Owen Flairman choked out, "like a great-necked gander?"

"Certainly a bird, but not at all like a great-necked gander." The birdwatcher peered quizzically at Owen Flairman, who was being imperfectly soothed by nervous aides. "A bird, nevertheless, that depended mainly on the common fly for its sustenance. When Mao wiped out the fly, the starling began to starve. In desperation the birds, poor things, were forced to"—Owen Flairman listened bug-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

eyed, a pulse throbbing in his temple—"the birds were forced to eat the leaves of the paper mulberry tree, which killed the trees over millions of acres of land, destroying the natural water tables and sheds, leading to vast droughts in the Chinese countryside, dustbowls, millions of deaths, mass starvation . . ."

Owen Flairman's tubby body shook as if with apoplexy. One of his aides had clamped his hand firmly over his boss's mouth.

The birdwatcher shook his head sadly. "Tsk, tsk, all of that because of a few flies. Because, my dear sir, Chairman Mao *didn't think it through.*"

Owen Flairman's eyes bulged and his shoulders heaved. His aides searched frantically for tranquilizers.

"No," said the birdwatcher, "it is most unlikely that this Committee, without the most *scrupulous* study could authorize—"

"And just how do you propose to stop me?" Owen Flairman managed between his aide's fingers.

"Hmmm," mused the Vice-President, "ultrasonics, eh? Sorta like radio waves, huh? I guess that would come under Communications. The FCC will do the trick."

"Say," Defense wanted to know, as Owen Flairman was being led away by his aides, "is that really *true*, all that guff about China and the flies? I mean, I thought that was just Joe Alsop make-believe, like that story of making soy sauce out of human hair."

The birdwatcher shuddered. "With such a dreadful person as *that* . . . it makes a good story."

Owen Flairman was led off to his Minnesota fishing lodge, where he spent the better part of the summer slapping at mosquitos, annointing himself with 6-12, and cursing inventively. During the occasional period he was free from the ghastly whine of blood-thirsty insects, he managed a few moments of constructive thought.

He thought of millions of undernourished or starving Indians.

He thought of millions of overfed cats and dogs.

He thought of billions of obscenely-plump flies and rats.

He thought of JACKASS and of men of good will everywhere.

He thought of his ultrasonic black box.

And he thought, of course, of the fowl of the air—the latter-day Untouchables.

Lastly he thought of his balance sheet.

And came to a decision.

There was only one which was logically possible.

So birds were Untouchable, eh? Owen Flairman grunted.

His experts were summoned. Orders were given. Money was allocated. Research was begun. Owen Flairman recovered his normal good spirits.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Ten months later, on June 14, 1979, just as the mosquito season was hitting its full stride, when Owen Flairman's summer cottage would sporadically disappear from view within a cloud of ravening insects, he gave the order.

All over the world, cunningly hidden black boxes hummed quietly from the inside of refrigerated cars and trucks and wagons, from processing plants and cold storage facilities.

The dreadful boxes hummed for eight hours, until the last one had been smashed.

But by then it was already too late: 4,751,374 men and women of good will, environmentalists and ecologists all, crusty conservationists and incorrigible do-gooders alike, but birdwatchers and birdlovers above all, had vanished forever into the maw, painlessly but remorselessly processed.

Dogs and cats ate particularly well for a number of months.

And Owen Flairman went to jail.

For life plus ninety-nine years. The retribution of Stern Justice.

The seven years passed quickly. After the third week there were no longer any rats in his cell. Flies and mosquitos disappeared during his eighth month. In his fourth year he learned of the elimination of certain avian pests. Among those missing was the great-necked gander. Somewhere on the West Coast his nuclear utility was rekindled; dividends accumulated in a Swiss bank.

In his sixth year bizarre and inexplicable rumors began to reach him.

In his seventh year he was released.

To accept the Nobel Peace Prize.

Owen Flairman blinked into the strong sunlight.

Norway being now a part of the Scandinavian Protectorate, the recipient of the Peace Prize was currently chosen by a committee of men designated by a newspaper publisher living in Butte, Montana.

The Pax Americana, Owen Flairman learned, had reigned for two years. World population had been reduced by two-thirds. No longer were there starving Indians or arrogant Arabian oil sheikhs or impertinent Wogs and Chinks.

They were one with JACKASS.

Owen Flairman gazed about him in the bright new world which his little black boxes had wrought. One thing stood out: the absence of the great-necked gander.

Something else, however, was definitely askew. After a while he put his finger on it.

Why, he asked himself, if his little black boxes could be so easily adjusted to lead the unAmerican unto the path of the cat and dog-food factories, why, with a little bit of fiddling, could not they be as easily adjusted to lead the unFlairman along the same well-beaten path? Why not indeed?

Owen Flairman, accepting the Nobel Peace Prize, smiled. ■

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

SLAC with the linear accelerator and the SPEAR storage ring in the foreground. (Courtesy of Stanford Linear Accelerator Center, Stanford University.)

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

THE DISCOVERY OF THE GYPSY

In the weird world of particle physics, simplicity often comes from complications.

RICHARD A. CARRIGAN

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

On the weekend of November 8, 1974, thirty-five scientists working at SPEAR, near San Francisco, began the slow process of bringing their experiment back on the air. Earlier that summer, one datum point at low energy had behaved in an odd way—it was off, but not so far off that it couldn't have been a fluke. On different runs, it had moved up and down—once several times higher than before. The physicists wondered if there had been a glitch in the equipment. To repeat the point, the machine experts laboriously reset the energy in the complex machine down to 1.5 billion electron volts.

The SPEAR storage ring, at the Stanford Linear Accelerator Center (SLAC), is among the most sophisticated devices in the arsenal of physics. (The acronym means "Stanford Positron-Electron Asymmetric Ring.") Electrons and their antimatter mates, positrons, whirl in opposite directions through a narrow vacuum chamber, a donut 725 feet around with the cross-section of a matchbox. These beams, locked in by a chain of magnets and ephemeral as the vacuum itself, still have sufficient energy to burn a hole in solid steel. They must be aimed with millimeter precision to collide. When an electron and positron collide head on in SPEAR, the energy of motion converts to a tremendous outpouring of particle fragments; the original bits of matter fuse to create a seething pool of particles and energy on a submicroscopic scale. It is the study of these tiny fragments, the elemental stuff of nature, that rivets the attention of scientists working on the inner core of matter. In the trade, these fragments are called elementary particles or, simply, particles. Elementary, not so much because the particles are easy to understand, or simple, but with the naive hope that they are the basic building blocks of matter. The study of elementary particles is sometimes called high energy physics because it takes so much energy to produce the particles.

On the night of November 9, SPEAR slowly began moving up by steps of less than one-thousandth of a BeV. One BeV (billion electron volts) is a unit of energy approximately equal to the mass of a proton. By midmorning Sunday, a startling effect was at hand. The rate of collisions had zoomed up more than a factor of one hundred for one small band of energies, a result at once entirely unexpected and starkly clear. At the magic energy, the on-rushing beams were more than one hundred times as likely to collide—almost as though the electrons and the positrons had suddenly expanded in size by a factor of one hundred. At this point, 3.105 BeV, a curious new particle was being formed in the collisions of the two beams. The new particle was heavier by fifty percent than most known particles. It was be-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

coming clearer by the moment that it was also much longer lived than the other particles of its class.

Meanwhile, on the East coast at Brookhaven National Laboratory about sixty miles east of New York City, Sam Ting was preparing to fly out to Stanford to meet with the experimental program committee at SLAC. Outwardly Sam Ting may have appeared impassive, for Ting is almost the archetype of the inscrutable Oriental. But inwardly he must have been churning with excitement, for Ting knew he was sitting on the physics discovery of the decade.

In two years, Ting and thirteen collaborators had painstakingly assembled six large electromagnets, a myriad of electronic counters and 10,000 pounds of soap into a device called a V spectrometer, the size and complexity of a swept-wing jet. This enormous instrument at Brookhaven's 33-BeV Alternating Gradient Synchrotron (or AGS for short) could reach into the depths of a million nuclear collisions and pull out a matched electron-positron set. In August 1974, the needle-in-the-haystack search began. Almost immediately an odd result popped out. Many more of one particular combination of an electron and positron were coming through the spectrometer. This combination added up to give a mass of 3.1 BeV. Ting's group had found a new particle which they christened the J.

On the way to the meeting Monday morning, Ting stopped by to visit Wolfgang Panofsky, the Director of SLAC. Ting is reported to have opened the conversation by saying he had some exciting new physics to discuss. He launched into a description of his J particle with a mass of 3.1 BeV. In a moment Panofsky was describing the psi discovered the day before at SLAC. The two experimental groups, working three thousand miles apart, had discovered the same particle independently and essentially simultaneously.

In the days that followed, news of the J-psi (or *gypsy* as some wags christened the particle) discovery impacted on every corner of the physics world, often vitally affecting research programs underway. Before many weeks had passed, it had been found at three other laboratories in Europe and America. Two weeks after the initial discovery, a 3.7-BeV sister to the psi turned up at SPEAR.

Why has the discovery of the psi created so much excitement? Dead heat discoveries are rare but sometimes happen when a lode of knowledge is ready for tapping. The signal at SLAC was astoundingly strong—comparable to an astronomer looking up into the sky from his home one night and seeing a super nova blaze up over several minutes. But a strong signal is only easy to find; some of na-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ture's most exciting secrets are mere will-o'-the-wisps.

The enormous weight and the extremely long life of the new particles are the fascinating features. An ordinary proton, the heart of the hydrogen atom, weighs less than one hundred millionth-billionth-billionth of an ounce or 0.94 BeV when the equivalence of mass and energy is taken into account. The psi, on the other hand, weighs 3.1 BeV, so that it is more than three times as heavy as the proton.

Many particle fragments break apart almost as they are born. A convenient clock is the time it takes light to speed across a particle, about one trillion-trillionth of a second. The psi lives ten thousand times that long—short in terms of a heartbeat, but a hundred times longer than any similar particle. The psi stands in relation to other particles as a granddad compares to his small grandchild.

These properties, the heaviness and long life, have stirred up enormous speculation. Physicists had already been on the lookout for heavyweight fragments. One heavyweight was the long-sought key to radioactivity, the so-called intermediate boson. A second possibility was conjectured to be a combination of two heavier parts with some special property—a property that would prevent the system from breaking into other pieces. For example, the new property might be something similar to a new kind of electrical charge. By now one of these ideas has fallen by the wayside. Features of the other may be dropping into place. The roots of this dramatic situation are entwined in the development of high energy physics from the rich soil of atomic and nuclear physics.

The Four Forces . . .

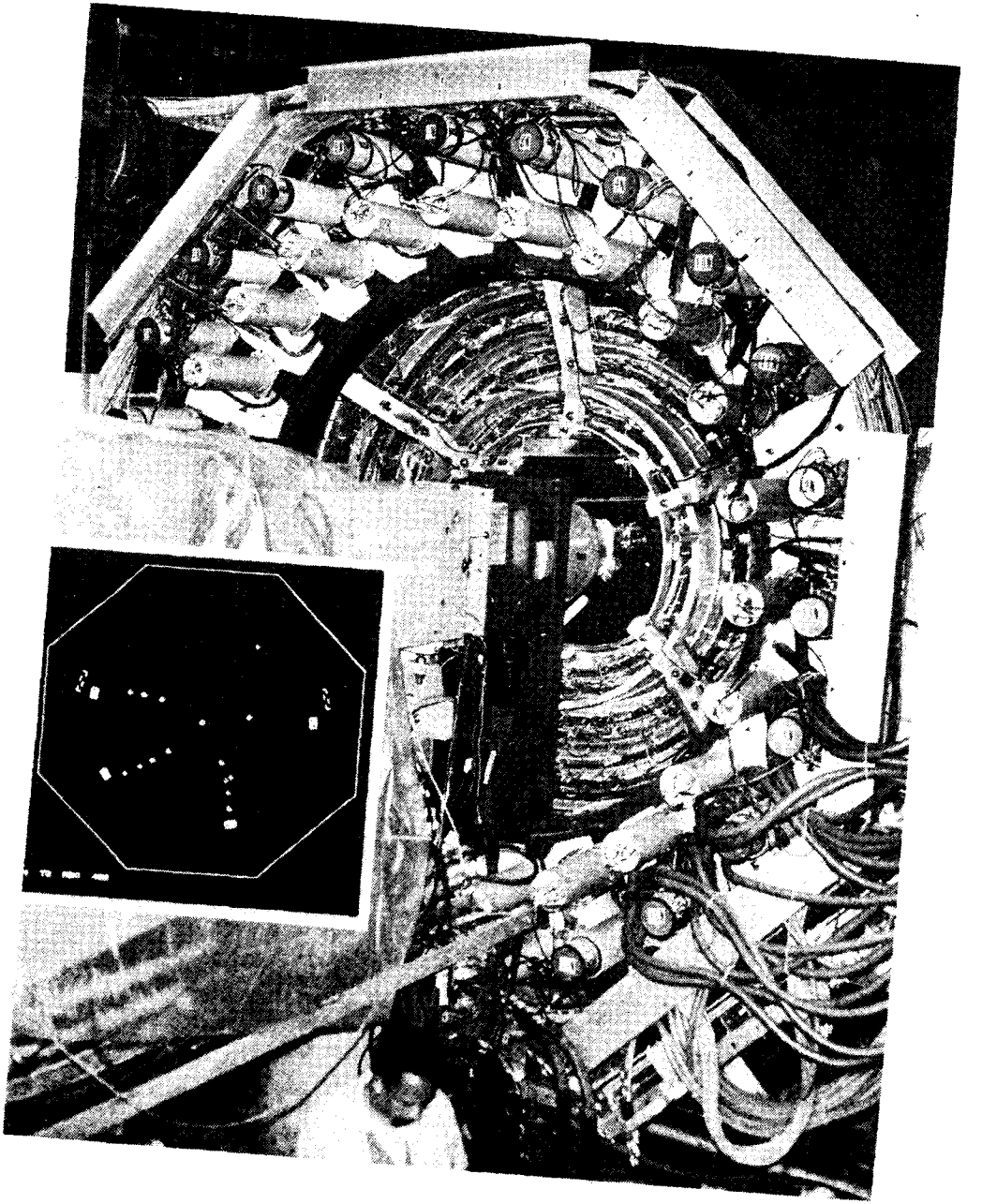
The nuclear age dawned in 1938 with the discovery of nuclear fission. Already the four basic forces of nature were known. All forces from the push of a tiny spring to the pull of the Moon on the oceans are a combination of the famous four: gravity; the force of radioactivity; electricity, with its brother magnetism; and the force in the atomic nucleus.

Gravity, understood at one level by Newton three hundred years ago, is the most pervasive force. Surprisingly, though, gravity is also by far the weakest force. Only the fact that there is no known negative gravity keeps it from washing out altogether. For an atom, the gravitational pull between an electron and proton has no perceptible effect compared to the force of electricity.

Next in strength is the force responsible for radioactivity. In the trade, this is known as the weak

SPEAR detector where the psi was discovered. Inset shows an event. Note man for scale. (Courtesy of Stanford Linear Accelerator Center, Stanford University.)

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

nuclear force. While weak, the radioactive force is still much stronger than gravity. The key to this mysterious force is an elusive particle called the neutrino. In radioactive decays, energy seems to disappear, an effect that runs counter to the sensibilities of most scientists. Electrons break away from a decaying nucleus with many different energies indicating that something else is leaking out of the decay. In the late Twenties, Wolfgang Pauli, one of the giants of the theory of the atom, suggested in a letter to friends that an undetected particle, now called the neutrino, was also coming out in radioactive decay. This wisp of a particle would have no electrical charge, no detectable mass, and next to no reaction with matter. In a few months, Enrico Fermi knit Pauli's suggestion into the cloth that today constitutes much of the theory of this weak force.

The force that is responsible for most of the properties of ordinary matter comes from the combined effects of electricity and magnetism. For most of recorded civilization, the connection between electricity and magnetism went unrecognized. Beginning in the last century, Faraday and others found a thread connecting the two. About a hundred years ago, Maxwell, a sometime Cambridge don and full-time Scot eccentric, found the linkage was total. From this synthesis of two disparate fields poured nearly every element of modern physics, including Einstein's relativity, and the picture of the atom that developed in the early Twentieth Century. At the same time, practical developments sprang forth at a fantastic rate. Not the least of these are radio and television with a whole host of sociological ramifications. At the time Maxwell wove electricity and magnetism together, no one anticipated this treasure trove of science and technology.

The strongest force of all holds the nucleus of the atom in an iron-fisted grip. It easily overwhelms the repulsion of electrical charges and keeps the nuclear fragments tightly knotted together. Before World War Two, a remarkable Japanese, Hideki Yukawa, suggested that this strong nuclear force originated from tossing a particle called a pion back and forth between a proton and neutron, so that they link together in the way a basketball team clusters to control a basketball. Yukawa went so far as to predict a mass for the pion, about one-seventh of the weight of a proton. In 1947, the pion was discovered.

These four forces are the cornerstones of modern physics. To all appearances the four are unrelated. On the other hand, a hundred and fifty years ago, electricity and magnetism shared no known common bond. Unification of these four forces would be a great triumph for

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Handyman's Guide to E = mc²

Einstein's famous formula, E = mc², relates particle mass or weight to energy. The mass of a proton is about one billion electron volts. A billion electron volts (BeV for short) is the energy that an electron gains in accelerating through a field of one billion electron volts. The electrons in a TV tube have energies of about twenty thousand electron volts, since the voltage on the tube is around twenty thousand volts. A billion electron volts is a small amount of energy. A bug crawling in the dirt has more energy than the energy of a proton in the most powerful accelerator in the world.

science, very possibly laden with enormous practical consequences.

All four forces were known before World War Two. In addition, one other particularly significant fact was at hand—the existence of anti-matter.

Around 1930, Paul Dirac attacked the problem of including Einstein's relativity in the theory of the atom. His brilliant idea fitted several seemingly unrelated facts together in a most remarkable way. But one unusual feature remained, negative energy. One way out of the negative energy was to invent an extra set of particles with opposite to normal electric charges, anti-particles that would totally annihilate if merged with their regular particle mates. Only a few years later the first positive electron or anti-electron was seen in a cloud chamber photograph by Carl Anderson in 1932.

. . . And the Many Particles

As war clouds set in over the world, the hunt was on for Yukawa's pion, the key to the nuclear forces. In 1936, a fragment of about the right weight was found, but something was wrong. The particle didn't react with nuclear matter. It sailed cleanly through, only trickling off energy from the drag of its electrical charge. For the war years, the conundrum of the odd behavior of the particle remained unsolved.

It was only after the war that other researchers discovered the true pion, with nearly the same mass and the right nuclear reactions. After a short, sweet life of one hundredth of a millionth of a second, the pion splits into the odd particle and a neutrino. The odd particle is the so-called muon—nothing more or less than an oversized electron. To this day, there is no real explanation for the muon. One Nobel prize winner upon hearing of it remarked, "Who ordered that?"

Over the two decades after World War Two, hoards of new particles were discovered, more particles indeed than all the chemical elements in the periodic table. Particularly noteworthy were the discoveries of heavy anti-particles,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

so-called resonances, and strange particles.

If there are anti-electrons, are there also anti-protons? According to Dirac's ideas, an anti-proton and an anti-neutron are just as reasonable and indeed as necessary as an anti-electron. But, since a proton is nearly two thousand times as heavy as an electron, a great deal more energy is needed to make an anti-proton. Just as with an anti-electron, it is necessary to create both a proton and anti-proton together. In the net, almost six billion electron volts is required to create an anti-proton. Over the next twenty years after the discovery of the positron, experimenters searched diligently, but fruitlessly, in cosmic rays for some sign of an anti-proton.

The discovery of the anti-proton awaited an entirely new machine, the Bevatron, at the University of California. The energy of the Bevatron was set high enough so that it was capable of producing pairs of protons and anti-protons. Owen Chamberlain and Emilio Segre, along with their collaborators, set out to find the anti-proton at the Bevatron. The cosmic ray results indicated that anti-protons must be pretty rare beasts among the nuclear fauna. The challenge of the experiment was to sort out anti-protons from an enormous welter of other nuclear shards.

To detect the protons, Chamberlain, Segre, and their collaborators built a device similar to the familiar optical spectrograph but using magnets for the prism and lenses. The combination of the magnetic spectrograph, a superfast electronic speed trap, and special counters was enough to find the anti-proton needle in the pion haystack. In the first pass with the experiment, about sixty anti-protons were found, and the evidence was so firm that this immediately confirmed the existence of heavy anti-matter.

As the years have passed, anti-proton beams have become commonplace at accelerators. In any pulse of the particle beams at Fermilab, the gigantic machine near Chicago that is the largest accelerator in the world, there are many more anti-protons produced than in the original experiment at the Bevatron. It is now possible to do entire experiments using anti-protons.

Soon after World War Two, a new cyclotron came on line only a stone's throw from the site of the world's first nuclear reactor at Stagg Field in Chicago. Like the Stagg Field reactor, this cyclotron had been constructed by Enrico Fermi and his associates. Fermi and his colleagues started a series of experiments with the newly discovered pions. They took these pions from very low energies up to 0.2 BeV, the highest energy available from the cyclotron, then one of the highest energy machines in the world. As the pion energy was

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

boosted, the rate of interactions with material rose dramatically to the highest energy possible at the cyclotron. Later at the Brookhaven cosmotron, this reaction was followed to still higher energies where it dropped down again. The curve of the rate of interactions was very similar to the tuning curve on a radio as a loud station is pulled in. When the radio is tuned away from this station, there is no signal. As the tuning is adjusted, the signal increases to a sharp maximum and then falls away again. In electrical circuits, this property is called a resonance. The way a child rides a swing shows resonant behavior. The swing really picks up speed with the right timing, but if the child tries to pump the swing slightly out of time, everything goes haywire.

Keith Brueckner, then a theoretical physicist and now better known for his inventions in laser fusion, puzzled out the meaning of the rapid rise and fall of the interaction rate. He suggested that a resonant state existed between the pion and the proton that it interacted with. For a short flash of time, the pion and proton came together, shook hands, and then swung off—almost the way two skaters speed together, snap the whip, and then fly apart. Physicists think of this resonant behavior as a new particle consisting of a pion and proton. In shop-talk terms, it is called the 3-3 resonance. It has a mass of 1.238 BeV, a little more energy than the mass of the pion and the proton that make it up. The resonance lives only momentarily, roughly one million-billion-billionth of a second. This is close to the time it takes light to speed across the nuclear core of the atom. This resonance was only one of many more short-lived resonances that were to be discovered over the next decades. Only in the last few years has the Chicago cyclotron finally gone off the air. Like Phoenix rising from the ashes, its magnet has sprung up again in the neutrino area at Fermilab. It still is used by the University of Chicago and other institutions for physics work, perhaps once more to discover resonances.

Scorecard on Particle Jargon

Neutrino	Elusive particle from radioactivity. In daily use.
Strangeness	Explains why strange particles don't break apart right away. Nearly as well established as electrical charge.
Quark	Idea is to build most other particles out of quarks. Ideas work but no one has found quarks. May be in a class with Atlantis and the missing link.
Charm	New idea similar to strangeness. Now on the auction block to see if nature will buy it.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The Eightfold Way

In the decade after World War Two, a most peculiar set of particles was found. In early cosmic ray experiments, cases were discovered in which a cosmic ray would come to a point, interact, and then a "V" would appear some inches away pointing back to the spot of the nuclear crash. In many of the cosmic ray events, the "V" consisted of a proton and a negative pion. At first sight, it might seem that this was something like the 3-3 resonance discovered at the University of Chicago. On the other hand, the 3-3 resonance only lived for a very short time. Several inches moving at the speed of light may seem like a short enough existence, but measured against one million-billion-billionth of a second, it is an eternity. Scientists were mystified by how a particle could live so long after it was created in a clash of strong nuclear forces. Seemingly, if something could be created rapidly, it should break apart rapidly, too.

Abraham Pais puzzled about the problem of these long-lived "V" particles. He suggested that perhaps the "V's" were produced in pairs and that the mass of the "V" particles was heavy enough so that the process could not run backwards; that is, the "V" did not have a natural way to fly apart by strong interactions. It had to find some unnatural way such as decaying through a proton and a pion. Pais called his idea associated production—the production of two "V's" at once. Shortly, experiments to look for "V" production started in earnest at accelerators. Almost immediately Pais' conjecture was confirmed, the "V's" were produced in pairs so that there were always two "V's" associated with a nuclear collision. In photographs taken in a cloud chamber, one of the experimental devices used to trace out particle tracks, these particles always appeared as two "V's" pointing back like road-sign arrows to the spot where they were produced.

In 1953, Murray Gell-Mann, a young theorist at Cal Tech, suggested that this associated production occurred because of the need to conserve some property, just as charge stays constant in electrical systems; no net charge can be created. He called the property "strangeness." Strangeness must remain constant in these reactions just as the amount of electric charge does. In associated production two particles are produced, one with positive, the other negative strangeness. When the particle breaks apart, strangeness isn't preserved. This can only occur with the weak interactions since strangeness is conserved with the strong and electrical forces.

A decade later, Gell-Mann was at it again. He took the myriad of particles and noted that only a few features served to distinguish nearly all of them—electric charge,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

strangeness, whether they were more like a pion or proton, and the spin or angular momentum of the particle. On this basis, Gell-Mann was able to classify most of the vast array of particles much like a biologist classifies plants and animals or Mendelyeev organized the chemical periodic table ninety years earlier. Almost at the same time, Yuval Neeman, a high-ranking Israeli army officer with an avocational interest in particle physics came up with the same idea. Gell-Mann and Neeman used a scheme colorfully called the eightfold way (technically SU_3).

In the early 1960's, one pattern from the eightfold way was incomplete, the so-called baryon decuplet. This decuplet pattern consisted of ten particles. Four members of the decuplet were different states of the 3-3 resonance discovered by Fermi and his colleagues in Chicago. Three more came from a similar resonant state of a "V" particle. In 1962 at an international conference on high energy physics in Geneva, Switzerland, another resonant state was discovered with strangeness minus 2. This filled up two more of the slots so that only one particle was missing. Gell-Mann was sitting in on the meeting. As the result was announced, he calculated the difference in weight between the 3-3 resonance, the "V" particle, and the newly announced set. In a few minutes, he was at the board and announced that a new particle, the omega minus, must exist with a strangeness of minus 3 and a mass of 1.676 BeV, almost twice the mass of the proton. With Gell-Mann's prediction in hand, the hunt was on by experimental groups at the largest accelerators in the world.

To produce a particle with minus 3 strangeness, it helps to bring as much strangeness as possible into the interaction. About the best that can be done is to use a beam of negative K mesons with negative strangeness. Two K mesons with positive strangeness must leave the interaction in order for the omega minus to be created. Expressed in a form similar to the notation used in chemistry, the reaction is

$$K^{-1}_{-1} + P^{+1}_{0} \rightarrow \Omega^{-1}_{-3} + K^{+1}_{+1} + K^{0}_{+1}$$

or

kaon + proton → omega + 2 kaons

where the lower number indicates the strangeness of the particles and the superscript indicates the electrical charge. As with anti-protons, it was necessary to bring in extra energy, at least three billion electron volts.

The AGS at Brookhaven, where the J particle has now been discovered, had only been completed two years earlier. It was then the largest accelerator in the world. Coupled to the accelerator was an 80-inch

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

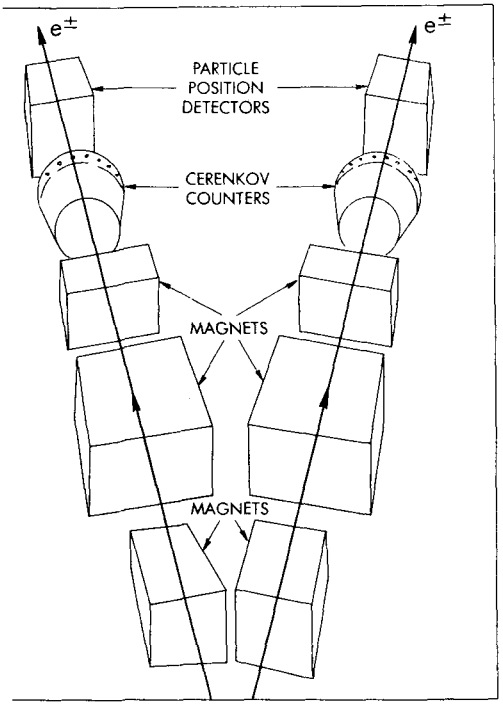
bubble chamber, also the largest in the world, and just coming into operation. A special particle beam more than 450 feet long was built from the accelerator to the bubble chamber. After months of grueling work in the winter of 1963, the experiment moved into operation and 50,000 pictures were taken of interactions in the bubble chamber. In the spring of 1964, the experimenters found two events that almost exactly confirmed Gell-Mann's idea. The omega minus was signaled by its decay about one inch away from a point where it had been produced by the K particle beam. The one-inch gap meant that the omega minus had a lifetime of about a tenth of a billionth of a second. The experimenters set the mass at 1.675 BeV—only one MeV less than Gell-Mann had predicted.

Enter the Quarks

After the discovery of the omega minus, Gell-Mann was able to build the eightfold way out of combinations of two or three hypothetical particles he called quarks. Gell-Mann plucked "quark" out of James Joyce's *Finnegan's Wake* perhaps hoping a nonsense word wouldn't carry the emotional connotation his earlier choice of "strangeness" had. (Unfortunately, in German, *quark*, in addition to meaning a kind of cottage cheese, implies nonsense.) In its simplest form, a quark has a fraction of the charge of an electron, the same spin, and may have strangeness. A pion is built of a quark and antiquark, a proton of three quarks.

If the omega minus existed, maybe the quarks did too. One way to look for quarks is to look for broken electric charges, charges smaller than the charge on an electron. For the last decade, the search for quarks has been exhaustive: at accelerators, in cosmic rays from space, and even in deep-sea oysters. No quark has been found. Some physicists feel that the quark only represents a convenient description that hides a deeper mean-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



Ting apparatus at Brookhaven, with accompanying schematic. (Courtesy of Brookhaven National Laboratory.)

ing, just as mythology is used to talk about the complex reality of the world.

Is there anything beyond Gell-Mann's eightfold way? After all, strangeness was not anticipated before it was discovered. The answer may be yes, and much of the excitement surrounding the psi is stimulated by this possibility. Another property, charm, may exist and add a new dimension to the eightfold way.

In this picture, the new particle discovered at SPEAR and Brookhaven, the psi, is made out of a charmed quark and an anti-quark with opposite charm so that the psi itself has no net charm. Just as with strangeness, charm impedes the breakup of particles carrying charm and even particles built up out of charmed quarks. If this picture is true, it would be exciting indeed to find a charmed particle. This search for charm is underway at nearly every accelerator laboratory in the world with the same intensity that marked the search for the quark and the omega minus.

Neutral Currents

Particles, though, are only one part of the picture. Another facet is the action of the four forces. If a social scientist is interested in people, he first studies their weights and traits, just as a physicist looks for the properties of particles. But next, the sociologist delves into the interactions between people. The particle physicist also looks at interactions, the effects of the forces mentioned earlier on the behavior of the particles.

Of all the interactions or forces, perhaps those of radioactivity, the so-called weak interactions, are the most curious. The neutrino itself, the keystone of the weak interaction, speeds eerily through matter like an exotic ghost emerging from a solid wall. A neutrino's interaction with its surroundings is so

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

An Incomplete Scorecard on Elementary Particles

Discovered		*Mass (BeV)*	
1897	Electron	0.0005	planetary particle in atoms
1895-1923	Photon	0	light quantum
1912	Proton	0.94	core of hydrogen atom
1932	Neutron	0.94	a proton without a charge
1932	Positron	0.0005	anti-electron
1936	Muon	0.11	heavy electron—but why?
1947	Pion	0.14	carries strong force
1947	Kaon	0.49	strange cousin of pion
1947	Lamda	1.12	strange cousin of proton
1952	3-3 Resonance	1.24	first resonance
1956	Neutrino	0	weak interaction particle
1955	Antiproton	0.94	just what it says
1964	Omega Minus	1.67	strangeness—3 cousin of 3-3
1974	ψ (J)	3.10	New for '74
1974	ψ'	3.70	Excited state of ψ

weak that it can go through all the stars in the galaxy with no noticeable effect. In the face of this problem, proving the existence of the neutrino was a serious challenge. There are two approaches to overcoming this vacuous behavior of neutrinos. One is to have many, many neutrinos and the second is to have a very thick target.

The first determined assault on the problem of neutrino detection was mounted in the early Fifties by Fred Reines and Clyde Cowan of the Atomic Energy Commission's Los Alamos Laboratory. As atomic bomb scientists, Reines and Cowan were familiar with the tremendous nuclear piles at Hanford and Savannah River. Savannah River was just coming into operation then for work associated with the H-bomb project. Nuclear piles are fantastic sources of neutrinos. In fact at that time, Savannah River was the most powerful man-made neutrino source available. So powerful that something like a billion-billion neutrinos passed through Reines' and Cowan's neutrino detector every second. The specific flux of neutrinos was never revealed because it would have given a key to the operation of this critical pile. For a neutrino detector, Reines and Cowan used layers of cadmium chloride laced in water, sandwiched between tanks of scintillating material. The tanks of scintillating material gave off flashes of light when the nuclear shards associated with neutrino interactions passed through. The detection of neutrinos was finally signaled by counts of

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

several events per hour. Reines' and Cowan's experiment has set the scale for all the neutrino experiments that followed, rates counted in hours, neutrinos counted in the billions upon billions, and detectors weighing many tons.

Over the last two decades, since the detection of the neutrino, the understanding of the ghostly weak interactions has undergone a series of violent upheavals including the discovery of two kinds of neutrinos and the breakdown of mirror symmetry and time reversal.

The ultimate crisis arrived one year ago. A theory had been forged for the weak interactions, a theory that had been hammered from Fermi's original gold. Fundamental to this theory was the idea that if a neutrino came in and hit something—interacted in its ghostly way—it never glanced off like a billiard ball. Instead, the neutrino was gobbled up and converted into a particle with an electric charge—an electron or a muon. In a sense, it was as though the object the neutrino struck threw over an electric charge and a little mass, *an electrical current, so to speak,* which converted the neutrino to an electrically charged object.

At accelerators, most neutrinos produce muons rather than electrons or positrons. Many experiments rely on tagging the neutrino events with muons. Often, a muon can be identified by its tremendous penetrating power, just the characteristic of muons that was so confusing to early cosmic ray experimenters. In other situations, muons are identified by the way they break apart. In 1974, experiments in America and Europe began to give odd results. Cases were found that were more like a billiard ball collision with the neutrino coming in, colliding, and going out, almost as though a *neutral current* was thrown across from the target to the neutrino. These experiments were terribly difficult since the outgoing neutrino was impossible to catch. Even now, no one is certain that the same neutrino that went in comes out.

If events were produced by neutrinos without muons, they would be much harder to tag. Just as with a nuclear pile, there are always background neutrons around an accelerator. Neutrino and neutron events look very much alike. Nothing comes in to the interaction point and something goes out. For fundamental reasons, events with a muon are not generated by neutrons.

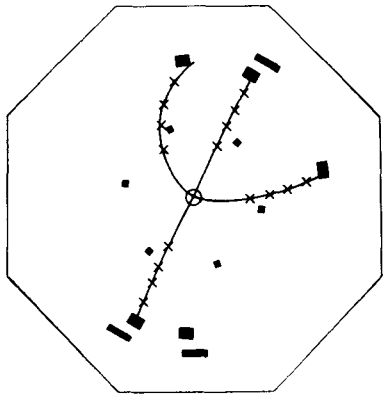
For many years, experiments looking for neutrinos showed events without muons; but it was not easy to prove that they were produced by neutrinos and not neutrons. There is a way to tell whether neutrons are causing the signal. Because the neutrons undergo the strong forces of the nucleus, they are rapidly absorbed as

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

they come into a detector. Consequently, neutron events drop off rapidly deep inside a detector.

In 1974, new large-scale detectors came into operation at CERN, in Switzerland, and at Fermilab. The CERN detector used an extremely large bubble chamber, so long that it was possible to see the events with the neutrons filtered out. Amazingly, there were several hundred neutrino events that seemed to be devoid of muons. Almost at the same time, a giant scintillator target, with an enormous muon detector downstream, swung into operation at Fermilab. This equipment was similar in many ways to the apparatus of Reines and Cowan scaled up by several factors of ten. No muons were seen in about one-third of the neutrino events. At first, there was some doubt about the fact that the events were free of muons. Since the muon detector was built downstream of the target, there was a suspicion that muons could be escaping to the side. Careful examination and further experiments showed that this was not the problem and that, indeed, a substantial fraction of the events were born without muons.

Interestingly, this same experiment has now gone on to see an effect on the other side of the ledger. In about one percent of the neutrino events, there seem to be two muons coming out. This two-muon result, now confirmed by other experiments, is one of the



Computer reconstruction of a psi (3700) decaying into a psi (3100) with two additional curved tracks from pions. The straight lines are the subsequent psi decay. Obviously, the particle thinks it was a psi. (Courtesy of Stanford Linear Accelerator Center, Stanford University.)

fascinating new mysteries confronting particle physics today.

Unified Fields at Last?

Several years prior to these discoveries, some of the giants of the physics world had suggested the possibility of these so-called neutral currents. Steve Weinberg, then of MIT and now Higgins Professor of Physics at Harvard, had put out the idea and then gone off to write a book on gravitation and cosmology. Abdus Salam, one of the inventors of the United Nations University concept, had also toyed with it. Both men wanted neutral currents but, at that time, the currents just didn't seem to be there.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

There are problems with neutral currents. Since neutral currents exist, some new modes of particle breakup should occur. Very extensive searches have not turned up any evidence of these modes. It was just this problem that stirred up the first suggestion of *charm* more than a decade ago. Adding charm to the particle lexicon turns off these special breakup modes. Without neutral currents, the idea seemed like extra intellectual baggage. Now a decade later with neutral currents found, something like charm is a charming and perhaps necessary idea.

Weinberg and Salam's ideas go under the technical designation of massive gauge theories. In massive gauge theories, two disciplines once thought separate, electromagnetism and radioactivity (the weak force), are now excitingly intertwined. Neutral currents fall naturally out of the theories but are not the only prediction. Very heavy particles called intermediate bosons are also suggested. These particles which give the theory the name massive, constitute both the charged and neutral current that lead to the normal weak interactions.

There are tantalizing hints that the knitting process can be carried one step further, incorporating the strong interactions into a magnificent trinity. Perhaps the most plausible conjecture accomplishes this by incorporating charmed particles.

At the time of the discovery of the psi, these two types of particles, intermediate bosons and charmed particles, were the hottest prospects for the underpinnings of the psi. A

Magnetic Monopoles

Since the discovery of the gypsies in late 1974, the excitement in physics has continued to build. More gypsy states have been discovered. In the last months the excitement has been capped with a front-page announcement in the August 15, 1975 *New York Times* that some physicists think they have discovered a magnetic monopole.

All ordinary magnetism is built out of electrical currents—currents circulating at an atomic level. It is impossible to isolate the north pole of an ordinary magnet by hacking the magnet in two. A new south pole springs in to being to complement the north on the shorter bar. Nevertheless, there appears to be no fundamental reason magnetic monopole sisters to protons or electrons should not exist. This is what the experimenters believe they have seen. Some scientists remain unconvinced by the evidence. The experiment still awaits confirmation.

This summer Analog will serialize a novel, "Minotaur in a Mushroom Maze," which will detail a conjectural particle, the Petron, with many facets of the magnetic monopole. Will it still be science fiction?

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

recent experiment at Fermilab has now ruled out the possibility that the psi is directly related to the intermediate boson. Charm may well be a reality. Three of the four basics forces of nature may now be linked.

Applications for the Future

New research developments can spin rapidly and unexpectedly into everyday life. Can the new particle discoveries affect the real world?

Many hardware spinoffs of the field have already impacted on the world at large. Possibilities of medical applications abound, including the treatment of cancer. The practical development of superconductivity, with applications to the generation, storage and transmission of power, owes much to the hardware of high energy physics.

But hardware applications are not what futurists have in mind when they look forward in time. They talk of exotic power sources, space drives, the possibility of making entirely new forms of matter.

Even today, particle physicists can and do make new matter. The psi itself is man-made, forged almost totally out of energy with an electron and a positron beam, a beam of anti-matter no less. A high-school student can make positronium, an atom consisting of an electron and a positron, by stopping the anti-matter positrons from radioactive decay in ordinary material. As with all the present forms of artificial matter in the everday world, the atom doesn't live long—in the neighborhood of a millionth of a second. Other exotic atoms have been fabricated, including atoms where pions and muons replace the electrons.

A muonic atom or ion of lead is several hundred times smaller than a normal atom; so small in fact, that some mesic ions are the same size as the atomic nucleus. Atomic matter composed entirely of muons or pions would be incredibly dense. A muonic beetle would weigh more than an elephant. Again, the complication is that muons wilt into neutrinos in millionths of a second. But, what if a stable muon was found? The electron is a stable particle and the muon seems to be nothing but a heavy electron. If a heavy, stable electron is found, all bets are off. Stable heavy matter will be possible with a myriad of ramifications.

Perhaps the most tantalizing possibility for a direct application of particle physics is something like the process called muon catalysis. Nearly two decades ago, physicists at the University of California in Berkeley were amazed by some extraordinary events in a bubble chamber. In these events, a muon would go a short distance, stop, start up again, and then cycle through the sequence several more times before it decayed away.

At first, the scientists thought they had discovered a new particle.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

As they probed further, they found this was not the case, but that something very curious was happening. The muon would slow down and stick on a proton to form a muonic atom. This muonic hydrogen atom next captured a nearby deuterium atom. The atomic cloud formed by the muon then pressed in on the proton and the deuterium nucleus so they fused together into helium and released a tremendous spurt of nuclear energy to the muon. The much heavier weight of the muon compared to an electron was the essential factor in forcing the two nuclei together. Afterwards, the muon moved on to do this again and again. The muon was the equivalent of a catalytic agent in chemistry since it was not used up in the process. What was happening was nuclear fusion—the process that so many scientists throughout the world are now trying to accomplish on a practical scale.

Unfortunately, the muon lives too short a time. Shortly after the discovery, J.D. Jackson, a theoretical physicist, wondered about the economic feasibility of muon catalysis for power production. He concluded that muon catalysis fails by a factor of a least five in achieving an energy production breakeven point.

But what if a stable heavy electron were found? With that in hand, heavy particle catalysis might be a realistic possibility and with it could come almost limitless troublefree power.

No such particle is now known. But if the quark is found, it might fit the bill. The discovery of the quark then might not be solely a clue to the inner secrets of matter, but might also lead to the key to the enormous power problem that plagues the world today.

These are speculations ranging far afield on possible impacts of particle physics. In all likelihood, these particular developments will not occur. But some other aspect, some other ingredient may change the course of the future, opening up a new treasure trove that may make the practical wonders of electricity and the nucleus pale. ■

FOR SALE

EXTENSIVE SCIENCE FICTION COLLECTION BY OWNER

The collection totals 3,497 items in almost uncirculated condition.

MINIMUM SALES PRICE—$5,000

Write for 17-page Description and Inventory to:

Mr. John E. Gerling
1727 Mulberry Drive
San Mateo, CA 94403

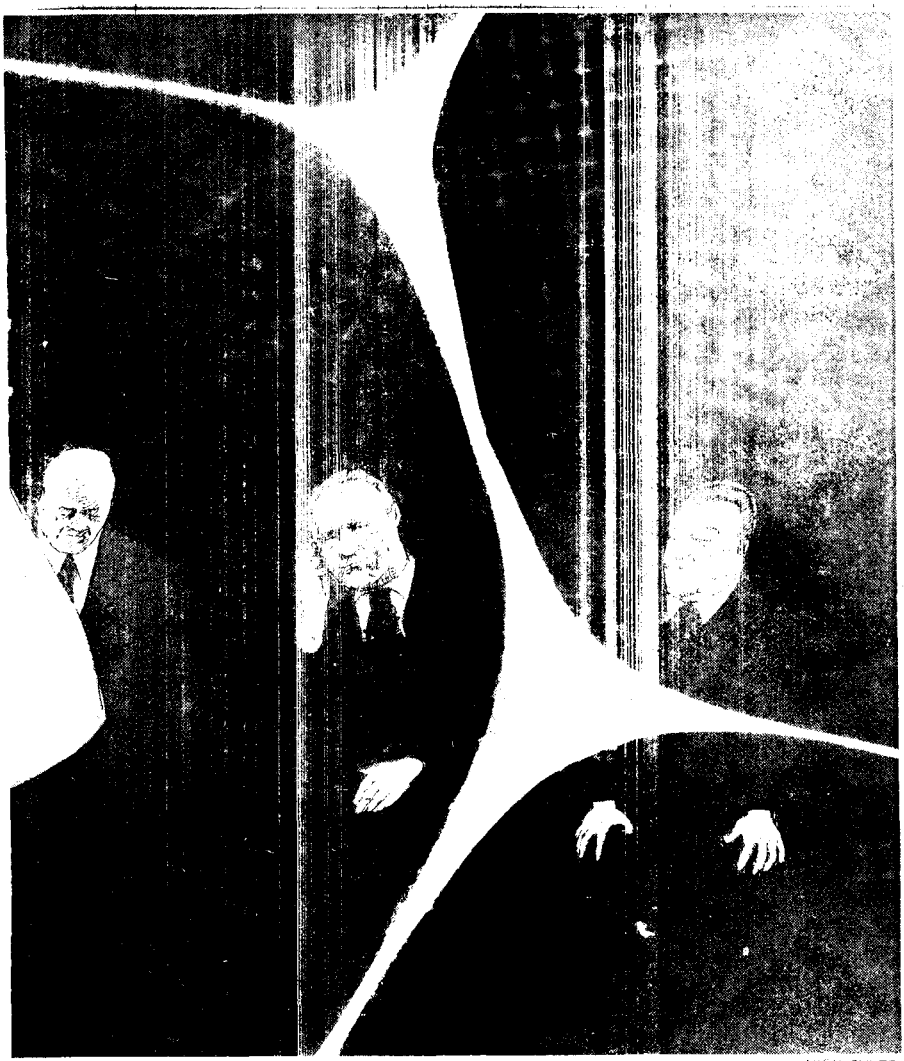
LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

THE WINNOWING

Morality is a part of every decision,
no matter how small—or large.

Isaac Asimov

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



NICK ZULES

Five years had passed since the steadily thickening wall of secrecy had been clamped down about the work of Dr. Aaron Rodman.

"For your own protection—" they had warned him.

"In the hands of the wrong people—" they had explained.

In the right hands, of course (his own, for instance, Dr. Rodman thought rather despairingly) the discovery was clearly the greatest boon to human health since Pasteur's working out of the germ theory, and the greatest key to the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

understanding of the mechanism of life, ever.

Yet after his talk at the New York Academy of Medicine soon after his fiftieth birthday, and on the first day of the Twenty-first Century (there had been a certain fitness to that) the silence had been imposed, and he could talk no more, except to certain officials. He certainly could not publish.

The government supported him, however. He had all the money he needed, and the computers were his to do with as he wished. His work advanced rapidly and government men came to him to be instructed, to be made to understand.

"Dr. Rodman," they would ask, "how can a virus be spread from cell to cell within an organism and yet not be infectious from one organism to the next?"

It wearied Rodman to have to say over and over that he did not have all the answers. It wearied him to have to use the term "virus." He said, "It's not a virus because it isn't a nucleic acid molecule. It is something else altogether—a lipoprotein."

It was better when his questioners were not themselves medical men. He could then try to explain in generalities instead of forever bogging down on the fine points. He would say, "Every living cell, and every small structure within the cell is surrounded by a membrane. The workings of each cell depend on what molecules can pass through the membrane in either direction and at what rates. A slight change in the membrane will alter the nature of the flow enormously, and with that, the nature of the cell chemistry and the nature of its activity.

"All disease may rest on alterations in membrane activity. All mutations may be carried through by way of such alterations. Any technique that controls the membranes controls life. Hormones control the body by their effect on membranes and my lipoprotein is an artificial hormone rather than a virus. The LP incorporates itself into the membrane and in the process induces the manufacture of more molecules like itself—and that's the part I don't understand myself.

"But the fine structures of the membranes are not quite identical everywhere. They are, in fact, different in all living things—not quite the same in any two organisms. An LP will affect no two individual organisms alike. What will open the cells of one organism to glucose and relieve the effects of diabetes, will close the cells of another organism to lysine and kill it."

That was what seemed to interest them most; that it was a poison.

"A selective poison," Rodman would say. "You couldn't tell, in advance, without the closest computer-aided studies of the membrane biochemistry of a particular individual, what a particular LP would do to him."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

With time, the noose grew tighter around him, inhibiting his freedom, yet leaving him comfortable—in a world in which freedom and comfort alike were vanishing everywhere, and the jaws of hell were opening before a despairing humanity.

It was 2005 and Earth's population was six billion. But for the famines it would have been seven billion. A billion human beings had starved in the past generation, and more would yet starve.

Peter Affare, Chairman of the World Food Organization, came frequently to Rodman's laboratories for chess and conversation. It was he, he said, who had first grasped the significance of Rodman's talk at the Academy; and that had helped make him chairman. Rodman thought the significance was easy to grasp, but said nothing about that.

Affare was ten years younger than Rodman, and the red was darkening out of his hair. He smiled frequently although the subject of the conversation rarely gave cause for smiling, since any chairman of an organization dealing with world food was bound to talk about world famine.

Affare said, "If the food supply were evenly distributed among all the world's inhabitants, all would starve to death."

"If it were evenly distributed," said Rodman, "the example of justice in the world might lead at last to a sane world policy. As it is, there is world despair and fury over the selfish fortune of a few, and all behave irrationally in revenge."

"You do not volunteer to give up your own over-supply of food," said Affare.

"I am human and selfish, and my own action would mean little. I should not be asked to volunteer. I should be given no choice in the matter."

"You are a romantic," said Affare. "Do you fail to see that the Earth is a lifeboat? If the foodstore is divided equally among all, then all will die. If some are cast out of the lifeboat, the remainder will survive. The question is not whether some will die, for some *must* die; the question is whether some will live."

"Are you advocating triage—this sacrifice of some for the rest—officially?"

"We can't. The people in the lifeboat are armed. Several regions threaten openly to use nuclear weapons if more food is not forthcoming."

Rodman said, sardonically, "You mean the answer to 'You die that I may live' is 'If I die, you die.' —An impasse."

"Not quite," said Affare. "There are places on Earth where the people cannot be saved. They have overweighted their land hopelessly with hordes of starving humanity. Suppose they are sent food, and suppose the food kills them so that

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the land requires no further shipments."

Rodman felt the first twinge of realization. "Kills them how?" he asked.

"The average structural properties of the cellular membranes of a particular population can be worked out. An LP particularly designed to take advantage of those properties could be incorporated into the food supply, which would then be fatal," said Affare.

"Unthinkable," said Rodman, astounded.

"Think again. There would be no pain. The membranes would slowly close off and the affected person would fall asleep and not wake up—an infinitely better death than that of starvation which is otherwise inevitable—or nuclear annihilation. Nor would it be for everyone, for any population varies in its membranal properties. At worst, seventy percent will die. The winnowing out will be done precisely where overpopulation and hopelessness is worst and enough will be left to preserve each nation, each ethnic group, each culture."

"To deliberately kill billions—"

"We would not be killing. We would merely supply the opportunity for people to die. Which particular individuals would die would depend on the particular biochemistry of those individuals. It would be the finger of God."

"And when the world discovers what has been done?"

"That will be after our time," said Affare. "And by then, a flourishing world with limited population will thank us for our heroic action in choosing the death of some to avoid the death of all."

Dr. Rodman felt himself flushing, and found he had difficulty speaking. "The Earth," he said, "is a large and very complex lifeboat. We still do not know what can or can't be done with a proper distribution of resources and it is notorious that to this very day we have not really made an effort to distribute them. In many places on Earth, food is wasted daily, and it is that knowledge that drives hungry men mad."

"I agree with you," said Affare, coolly, "but we cannot have the world as we want it to be. We must deal with it as it is."

"Then deal with me as I am. You will want me to supply the necessary LP molecules—and I will not do so. I will not lift a finger in that direction."

"Then," said Affare, "you will be a greater mass-murderer than you are accusing me of being. And I think you will change your mind when you have thought it through."

He was visited nearly daily, by one official or another, all of them well-fed. Rodman was becoming very sensitive to the way in which all those who discussed the need for killing the hungry were themselves well-fed.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The National Secretary of Agriculture said to him, insinuatingly, on one of these occasions, "Would you not favor killing a herd of cattle infected with hoof-and-mouth disease or with anthrax in order to avoid the spread of infection to healthy herds?"

"Human beings are not cattle," said Rodman, "and famine is not contagious."

"But it is," said the Secretary. "That is precisely the point. If we don't winnow the overcrowded masses of humanity, their famine will spread to as-yet-unaffected areas. You must not refuse to help us."

"How can you make me? Torture?"

"We wouldn't harm a hair on your body. Your skill in this matter is too precious to us. Food stamps can be withdrawn, however."

"Starvation would harm me, surely."

"Not you. But if we are prepared to kill several billion people for the sake of the human race, then surely we are ready for the much less difficult task of withdrawing food stamps from your daughter, her husband, and her baby."

Rodman was silent, and the Secretary said, "We'll give you time to think. We don't want to take action against your family, but we will if we have to. Take a week to think about it and next Thursday, the entire committee will be on hand. You will then be committed to our project and there must be no further delay."

Security was redoubled and Rodman was openly and completely a prisoner. A week later, all fifteen members of the World Food Council, together with the National Secretary of Agriculture and a few members of the National Legislature arrived at his laboratory. They sat about the long table in the conference room of the lavish research building that had been built out of public funds.

For hours they talked and planned, incorporating those answers which Rodman gave to specific questions. No one asked Rodman if he would cooperate; there seemed no thought that he could do anything else.

Finally, Rodman said, "Your project cannot, in any case, work. Shortly after a shipment of grain arrives in some particular region of the world, people will die by the hundreds of millions. Do you suppose those who survive will not make the connection and that you will not risk the desperate retaliation of nuclear bombs?"

Affare, who sat directly opposite Rodman, across the short axis of the table, said, "We are aware of that possibility. Do you think we have spent years determining a course of action and have not considered the possible reaction of those regions chosen for winnowing."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Do you expect them to be thankful?" asked Rodman, bitterly.

"They will not know they are being singled out. Not all shipments of grain will be LP-infected. No one place will be concentrated on. We will see to it that locally-grown grain supplies are infected here and there. In addition, not everyone will die and only a few will die at once. Some who eat much of the grain will not die at all, and some who eat only a small amount, will die quickly—depending on their membranes. It will seem like a plague, like the Black Death returned."

Rodman said, "Have you thought of the effect of the Black Death returned? Have you thought of the panic?"

"It will do them good," growled the Secretary from one end of the table. "It might teach them a lesson."

"We will announce the discovery of an antitoxin," said Affare, shrugging. "There will be wholesale inoculations in regions we know will not be affected. Dr. Rodman, the world is desperately ill, and must have a desperate remedy. Mankind is on the brink of a horrible death, so please do not quarrel with the only course that can save it."

"That's the point. *Is* it the only course or are you just taking an easy way out that will not ask any sacrifices of you—merely of billions of others?"

Rodman broke off as a food-trolley was brought in. He muttered, "I have arranged for some refreshments. May we have a few moments of truce while we eat?"

He reached for a sandwich and then, after a while, said between sips of coffee, "We eat well, at least, as we discuss the greatest mass-murder in history."

Affare looked critically at his own half-eaten sandwich. "This is not eating *well.* Egg-salad on white bread of indifferent freshness is not eating well, and I would change whatever coffee-shop supplied this, if I were you." He sighed. "Well, in a world of famine, one should not waste food," and he finished.

Rodman watched the others and then reached for the last remaining sandwich on the tray. "I thought," he said, "that perhaps some of you might suffer a loss of appetite in view of the subject matter of discussion, but I see none of you did. Each one of you has eaten."

"As did you," said Affare, impatiently. "You are still eating."

"Yes, I am," said Rodman, chewing slowly. "And I apologize for the lack of freshness in the bread. I made the sandwiches myself last night and they are fifteen hours old."

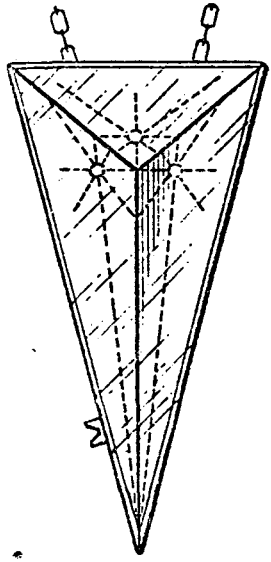
"You made them yourself?" said Affare.

"I had to, since I could in no other way be certain of introducing the proper LP."

"What are you talking about?"

"Gentlemen, you tell me it is

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



A NECKLACE—PENDANT GIFT

For the Person Who Has Everything or Who Appreciates Something Truly Different!

This plexiglass unit is a prism, one-light blinking system that looks like three. It is a solid-state light emitting diode (not a light bulb), and should last forever. Lights blink three times per second. The unit has an on-off switch so that it can be turned on or off as you wish. It has a continuous operating time of approximately 50 hours.

Hand-made with a complicated electronic oscillator, the unit is very light and small. Replacement batteries, which are easily changed, can be purchased at any drug store. Workmanship is unconditiionally guaranteed for 1 year. Units come in red, blue, gold, green, smoky or silver. Specify color when ordering. Also specify if you want Unit as Pin. (Patent Pending) Actual size shown at left—Weight 1 oz. ELECTRONIC JEWELRY by Kleiner Labs. Use order blank below:

$25.00 Postpaid **Battery and Chain Included**

KLEINER LABS, 2302 Beach St., Cisco, Texas 76437

Enclosed find check or MO for ..... in payment for ..... Electronic Pendants.

Color choice: 1st ..... 2nd ..... (Texans add 5% Sales Tax).

My Card No. Is

Interbank No. Signature

Card Expiration Date

Name.....

Address.....

City..... State..... Zip .....

necessary to kill some to save others. Perhaps you are right. You have convinced me. But in order to know exactly what it is we are doing we should perhaps experience it ourselves. I have engaged in a little triage on my own, and the sandwiches you have all just eaten are an experiment in that direction."

Some of the officials were rising to their feet. "We're poisoned?" gasped the Secretary.

Rodman said, "Not very effectively. Unfortunately, I don't know your biochemistries thoroughly so I can't guarantee the seventy percent death-rate you would like."

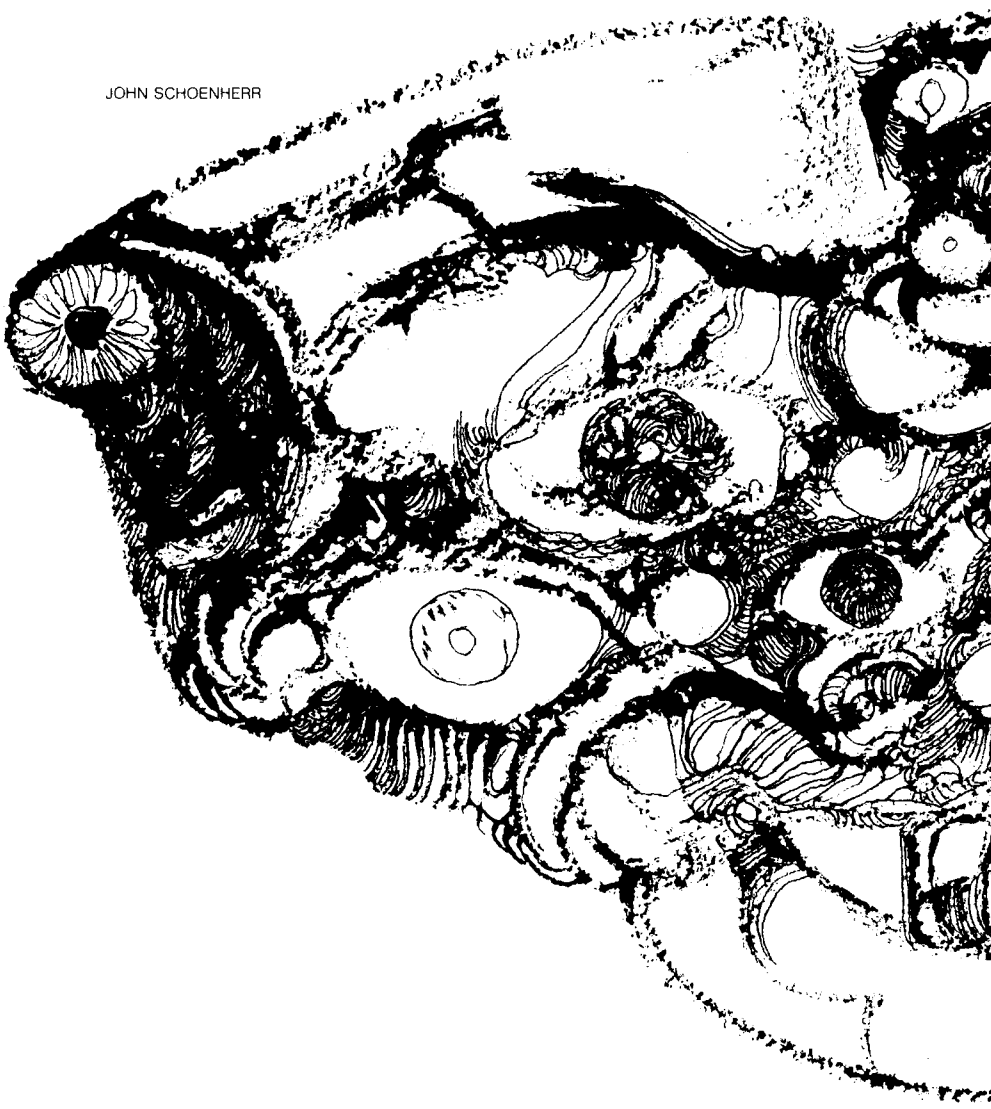
They were staring at him in frozen horror, and Dr. Rodman's eyelids drooped. "Still it's likely that two or three of you will die within the next week or so, and you need only wait to see who it will be. There's no cure or antidote but don't worry. It's a quite painless death, and it will be the finger of God, as one of you told me. It's a good lesson, as another of you said. For those of you who survive, there may be new views on triage."

Affare said, "This is a bluff. You've eaten the sandwiches yourself."

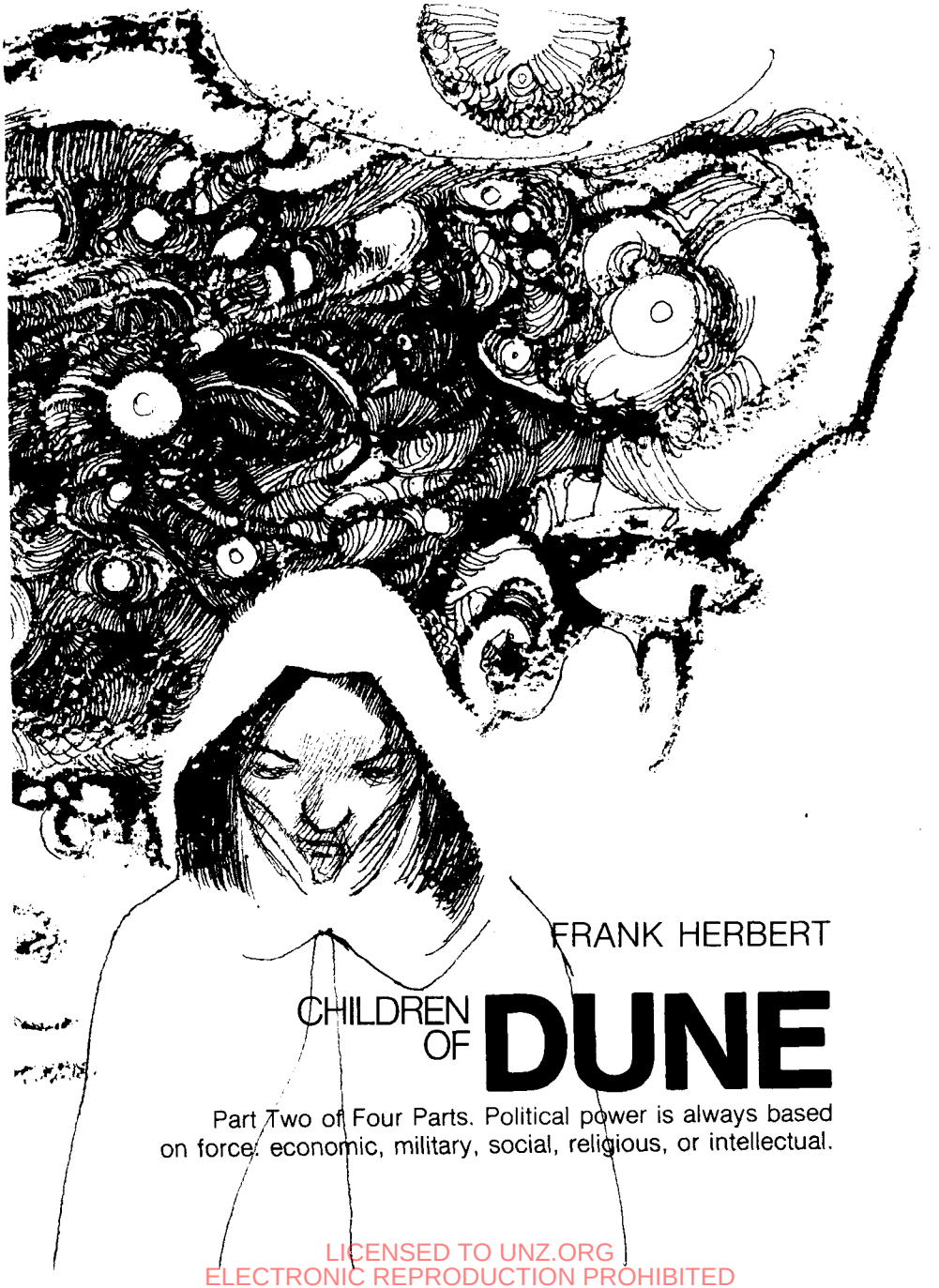
Rodman said, "I know. I matched the LP to my own biochemistry so I will go fast." His eyes closed. "You'll have to carry on without me—those of you who survive." ■

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

JOHN SCHOENHERR



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



FRANK HERBERT

CHILDREN OF DUNE

Part Two of Four Parts. Political power is always based on force: economic, military, social, religious, or intellectual.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

SYNOPSIS

Throughout the known universe countless dreams of power and riches focus upon Ghanima and Leto, the young twin children of Muad'Dib and his Fremen consort, Chani. Muad'Dib, born Paul Atreides on Caladan, was the product of a secret breeding program by the Bene Gesserit Sisterhood, who believed him their kwisatz haderach, *the male who transcended the powers of a Bene Gesserit Reverend Mother.*

Taken by his family to the desert planet of Dune (Arrakis), Paul became fully prescient through an overdose of the geriatric spice, melange, which was a planetary monopoly. On Dune, Paul learned to wear a stillsuit which recycled his body's water, learned to avoid the terrible coriolis storms, and came to manhood as a rider of the great gray worm-serpents which are an essential vector in the making of melange.

After his father's assassination, Paul as the Fremen Messiah Muad'Dib, led Dune's forces to victory over Family Corrino. In defeating the Corrinos' Sardaukar legions he wrested from them an interplanetary empire. Muad'Dib married a Corrino princess, Irulan, but never consummated the marriage, choosing Chani as his mate. When his sight was destroyed by the slow atomics of a stone burner and when Chani died in the birth of their twins, Muad-'Dib went alone into the desert, as was the Fremen custom, and was presumed dead. His widowed mother, the Lady Jessica, fled back to Caladan, leaving her only other child, Alia, Muad'Dib's sister, to rule the religio-political empire as regent. Jessica took with her a trusted aide, Gurney Halleck.

Stilgar, the old Fremen Naib who served Muad'Dib and now guards the twins, is deeply troubled by the deterioration of his people as Dune is transformed into a water-rich planet. But he accepts the divine authenticity of Muad'Dib's religious bequest, knowing that Muad'Dib lives in the twins. Leto and Ghanima, in common with their Aunt Alia, have available to them all of the memories of every ancestor. This status, called "pre-born," came about through a genetic susceptibility to melange long known to the Sisterhood and feared by them. Melange, taken by their mothers, awakened the fetuses in the womb. Such pre-born are susceptible to possession by a malignant ancestor and are considered Abomination by the Bene Gesserit.

But melange remains the most significant product in the Empire, the foundation of Atreides wealth. Bene Gesserit require it to create their Reverend Mothers. The Spacing Guild must have it for navigators to gain a limited form of prescience which allows them to find a safe translight path through the void. Fremen hold the spice sacred, using it in religious orgies. And while it conveys extended life, melange is always addictive.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The Bene Gesserit-trained Lady Jessica returns to Dune, driven by the Sisterhood's threat to reveal her as a daughter of the late Baron Vladimir Harkonnen, a widely hated planetary exploiter and slayer of Jessica's Duke, Paul's father. With control of the twins' genetic line at stake, the Sisterhood wishes to learn if Alia, Leto and Ghanima are truly Abomination. Jessica sends Halleck into Dune's desert on a mysterious mission.

Jessica finds Alia possessed and a deadly enemy, but the twins may not yet be Abomination. The twins avoid heavy doses of melange, suspecting this precipitates possession. Alia, though she tries, cannot see *the futures as did her brother. She has married Duncan Idaho, a mentat human computer. Idaho, an Atreides family retainer, died protecting Maud'Dib. The dead flesh was restored in Tleilaxu regeneration tanks and he is the only such* ghola *known to have regained his pre-death memories.*

Meanwhile, the Corrinos on Salusa Secundus train two Laza tigers to assassinate the twins, hoping thus to place the Corrino heir, Prince Farad'n, on the Imperial throne. The tigers are trained under the Sardaukar Bashar Tyekanik by orders of Farad'n's mother, Wensicia, who is Irulan's sister.

On Dune, a blind mystic called The Preacher wanders about speaking heresy. Many believe he is Muad'Dib, but the mystic and his young guide, Assan Tariq, do not confirm this. The Preacher has issued mysterious warnings to Alia, Stilgar, Irulan and Idaho, but Alia fears to martyr him. She orders her spies to discredit him, but The Preacher eludes her spies and journeys to Salusa Secundus to interpret a dream for Farad'n.

Leto, too, is inspired by dreams which he fears may be prescient as were his father's. He dreams he is the sun which shines upon his people, that he wears a skin like armor making him strong as ten thousand men. Leto knows the Ecological Transformation of Dune will destroy the giant worms and end spice production. This threatens Fremen, the present Imperial Power. It would be unsettling to the Landsraad political affiliation of Great Houses which rule fiefdoms on the Imperial planets, and would wreak economic havoc to CHOAM, the Landsraad's economic arm. It would certainly shut off the political wealth of the Atreides.

A plotter against the twins is Javid, leader of Alia's Society of the Faithful. Javid is secretly one of the Cast Out from Jacurutu, a place believed by most to be only myth. But Jacurutu remains a stronghold sietch hidden in Dune's deep desert. It is a place where Fremen once banded to wipe out a tribe of water stealers. Javid is a descendant of those few who survived Jacurutu.

Now, Leto upsets Stilgar by forcing the old Fremen to question tra-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ditional values. Alia orders Idaho to abduct Jessica, making it appear an act of House Corrino. Learning of this plot, Leto orders Jessica to allow the abduction. Idaho, seeing at last that Alia is possessed, that she has taken Javid as lover, agrees to the abduction but secretly vows it will be done his way, not as Alia has ordered.

Part Two

You have loved Caladan
And lamented its lost host—
But pain discovers
New lovers cannot erase
Those forever ghost.

—Refrain from
The Habbanya Lament

Stilgar quadrupled the sietch guard around the twins, but he knew it was useless. The lad was like his Atreides namesake, the grandfather Leto. Everyone who'd known the original Duke remarked on it. Leto had the measuring look about him, and caution, yes, but all of it had to be evaluated against that latent wildness, the susceptibility to dangerous decisions.

Ghanima was more like her mother. There was Chani's red hair, the set of Chani's eyes, and a calculating way about her when she adjusted to difficulties. She often said that she only did what she had to do, but where Leto led she would follow.

And Leto was going to lead them into danger.

Not once did Stilgar think of taking his problem to Alia. That ruled out Irulan, who ran to Alia with anything and everything. In coming to his decision, Stilgar realized he had accepted the possibility that Leto judged Alia correctly.

She uses people in a casual and callous way, he thought. *She even uses Duncan that way. It isn't so much that she'd turn on me and kill me. She'd* discard *me.*

Meanwhile, the guard was strengthened and Stilgar stalked his sietch like a gaunt specter, prying everywhere. All the time, his mind seethed with the doubts Leto had planted there. If one could not depend upon tradition, then where was the rock upon which to anchor his life?

On the afternoon of the Convocation of Welcome for the Lady Jessica, Stilgar spied Ghanima standing with her grandmother at the entrance lip to the sietch's great assembly chamber. It was early, and Alia had not yet arrived, but people already were thronging into the chamber, casting surreptitious glances at the child and adult as they passed.

Stilgar paused in a shadowed alcove out of the crowd flow and watched the pair of them, unable to hear their words above the susurrant throb of an assembling multitude. The people of many tribes would be here today to welcome back their old Reverend Mother. But he stared at Ghanima. Her eyes, the way they danced

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

when she spoke! The movement fascinated him. Those deep blue, steady, demanding, measuring eyes. And that way of throwing her red-gold hair off her shoulder with a twist of the head: that was Chani. It was a ghostly resurrection, an uncanny resemblance.

Slowly, Stilgar drew closer and took up his station in another alcove.

He could not associate Ghanima's observing manner with any other child of his experience . . . except her brother. Where was Leto? Stilgar glanced back up the crowded passage. His guards would have spread an alarm if anything were amiss. He shook his head. These twins assaulted his sanity. They were a constant abrasion against his peace of mind. He could almost hate them. Kin were not immune from one's hatred, but blood (and its precious water) carried demands for one's countenance which transcended most other concerns. These twins existed as his greatest responsibility.

Dust-filtered brown light came from the cavernous assembly chamber beyond Ghanima and Jessica. It touched the child's shoulders and the new white robe she wore, backlighting her hair as she turned to peer into the passage at the people thronging past.

Why did Leto afflict me with these doubts? he wondered. There was no doubt that it had been done deliberately. *Perhaps Leto wanted me to have a small share of his own mental experience.* Stilgar *knew* why the twins were different, but had always found his reasoning processes unable to accept what he knew. He had never experienced the womb as prison to an awakened consciousness—a living awareness from the second month of gestation, so it was said.

Leto had once said that his memory was like "an internal holograph, expanding in size and in detail from that original shocked awakening, but never changing shape or outline."

For the first time, as he watched Ghanima and the Lady Jessica, Stilgar began to understand what it must be like to live in such a scrambled web of memories, unable to retreat or find a sealed room of the mind. Faced with such a condition, one had to integrate madness, to select and reject from a multitude of offerings in a system where answers changed as fast as the questions.

There could be no fixed tradition. There could be no absolute answers to double-faced questions. What works? That which does not work. What does not work? That which works. He recognized this pattern. It was the old Fremen game of riddles. Question: "It brings death and life." Answer: "The Coriolis wind."

Why did Leto want me to understand this? Stilgar asked himself. From his cautious probings, Stilgar

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

knew that the twins shared a common view of their difference: they thought of it as affliction. *The birth canal would be a draining place to such a one,* he thought. Ignorance reduces the shock of some experiences, but they would have no ignorance about birth. What would it be like to live a life where you knew all of the things that *could* go wrong? You would face a constant war with doubts. You would resent your difference from your fellows. It would be pleasant to inflict them with even a taste of what you experienced. "Why me?" would be your first unanswered question.

And what have I been asking myself? Stilgar thought. A wry smile touched his lips. *Why me?*

Seeing the twins in this new way, he understood the dangerous chances they took with their uncompleted bodies. Ghanima had put it to him succinctly once after he'd berated her for climbing the precipitous west face to the rim above Sietch Tabr.

"Why should I fear death? I've been there before—many times."

How can I presume to teach such children? Stilgar wondered. *How can anyone presume?*

Oddly, Jessica's thoughts were moving in a similar vein as she talked to her granddaughter. She'd been thinking how difficult it must be to carry mature minds in immature bodies. The body would have to learn what the mind already knew it could do—aligning responses and reflexes. The old Bene Gesserit prana-bindu regimen would be available to them, but even there the mind would run where the flesh could not. Gurney had a supremely difficult task carrying out her orders.

"Stilgar is watching us from an alcove back there," Ghanima said.

Jessica did not turn. But she found herself confounded by what she heard in Ghanima's voice. Ghanima loved the old Fremen as one would love a parent. Even while she spoke lightly of him and teased him, she loved him. The realization forced Jessica to see the old Naib in a new light, understanding in a gestalten revelation what the twins and Stilgar shared. This new Arrakis did not fit Stilgar well, Jessica realized. No more than this new universe fitted her grandchildren.

Unwanted and undemanded, a Bene Gesserit saying flowed through Jessica's mind: *"To suspect your own mortality is to know the beginning of terror; to learn irrefutably that you are mortal is to know the end of terror."*

Yes, death would not be a hard yoke to wear, but life was a slow fire to Stilgar and the twins. Each found an ill-fitting world and longed for other ways where variations might be known without threat. They were children of Abraham, learning more from a hawk stooping over the desert than from any book yet written.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Leto had confounded Jessica only that morning as they'd stood beside the qanat which flowed below the sietch. He'd said: "Water traps us, Grandmother. We'd be better off living like dust because then the wind could carry us higher than the highest cliffs of the Shield Wall."

Although she was familiar with such devious maturity from the mouths of these children, Jessica had been caught by this utterance, but had managed: "Your father might've said that."

And Leto, throwing a handful of sand into the air to watch it fall: "Yes, he might've. But my father did not consider then how quickly water makes everything fall back to the ground from which it came."

Now, standing beside Ghanima in the sietch, Jessica felt the shock of those words anew. She turned, glanced back at the still-flowing throng, let her gaze wander across Stilgar's shadowy shape in the alcove. Stilgar was no tame Fremen, trained only to carry twigs to the nest. He was still a hawk. When he thought of the color red, he did not think of flowers, but of blood.

"You're so quiet, suddenly," Ghanima said. "Is something wrong?"

Jessica shook her head. "It's something Leto said this morning, that's all."

"When you went out to the plantings? What'd he say?"

Jessica thought of the curious look of adult wisdom which had come over Leto's face out there in the morning. It was the same look which came over Ghanima's face right now. "He was recalling the time when Gurney came back from the smugglers to the Atreides banner," Jessica said.

"Then you were talking about Stilgar," Ghanima said.

Jessica did not question how this insight occurred. The twins appeared capable of reproducing each other's thought trains at will.

"Yes, we were," Jessica said. "Stilgar didn't like to hear Gurney calling . . . Paul his Duke, but Gurney's presence forced this upon all of the Fremen. Gurney kept saying, 'My Duke.' "

"I see," Ghanima said. "And, of course, Leto observed that *he* was not yet Stilgar's Duke."

"That's right."

"You know what he was doing to you, of course," Ghanima said.

"I'm not sure I do," Jessica admitted, and she found this admission particularly disturbing because it had not occurred to her that Leto was doing anything at all to her.

"He was trying to ignite your memories of our father," Ghanima said. "Leto's always hungry to know our father from the viewpoints of others who knew him."

"But . . . doesn't Leto . . ."

"Oh, he can listen to the *inner life*. Certainly. But that's not the same. You spoke about him, of

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

course. Our father, I mean. You spoke of him as your son."

"Yes." Jessica clipped it off. She did not like the feeling that these twins could turn her on and off at will, open her memories for observation, touch any emotion which attracted their interest. Ghanima might be doing that right now!

"Leto said something to disturb you," Ghanima said.

Jessica found herself shocked at the necessity to suppress anger. "Yes . . . he did."

"You don't like the fact that he knows our father as our mother knew him, and knows our mother as our father knew her," Ghanima said. "You don't like what that implies—what we may know about you."

"I'd never really thought about it that way before," Jessica said, finding her voice stiff.

"It's the knowledge of sensual things which usually disturbs," Ghanima said. "It's your conditioning. You find it extremely difficult to think of us as anything but children. But there's nothing our parents did together, in public or in private, that we would not know."

For a brief instant, Jessica found herself returning to the reaction which had come over her out there beside the qanat, but now she focused that reaction upon Ghanima.

"He probably spoke of your Duke's 'rutting sensuality,'" Ghanima said. "Sometimes, Leto needs a bridle on his mouth!"

Was there nothing these twins could not profane? Jessica wondered, moving from shock to outrage to revulsion. How dared they speak of *her* Leto's sensuality? Of course a man and woman who loved each other would share the pleasures of their bodies! It was a private and beautiful thing, not to be paraded in casual conversation between a child and an adult.

Child and adult!

Abruptly, Jessica realized that neither Leto nor Ghanima had done this casually.

As Jessica remained silent, Ghanima said: "We've shocked you. I apologize for both of us. Knowing Leto, I know he didn't consider apologizing. Sometimes, when he's following a particular scent, he forgets how different we are . . . from you, for instance."

Jessica thought: *And that is why you both do this, of course. You are teaching me.* And she wondered then: *Who else are you teaching? Stilgar? Duncan?*

"Leto tries to see things as you see them," Ghanima said. "Memories are not enough. When you try the hardest, just then, you most often fail."

Jessica sighed.

Ghanima touched her grandmother's arm. "Your son left many things unsaid which yet must be said, even to you. Forgive us, but he loved you. Don't you know that?"

Jessica turned away to hide the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

tears glistening in her eyes.

"He knew your fears," Ghanima said. "Just as he knew Stilgar's fears. Dear Stil. Our father was his 'Doctor of Beasts' and Stil was no more than the green snail hidden in its shell." She hummed the tune from which she'd taken these words. The music hurled the lyrics against Jessica's awareness without compromise:

"O doctor of beasts,
To a green snail shell
With its timid miracle
Hidden, awaiting death,
You come as a deity!
Even snails know
That Gods obliterate,
And cures bring pain,
That heaven is seen
Through a door of flame.
O doctor of beasts,
I am the man-snail
Who sees your single eye
Peering into my shell!
Why, Muad'Dib? Why?"

Ghanima said: "Unfortunately, our father left many man-snails in our universe."

The assumption that humans exist within an essentially impermanent universe, taken as an operational precept, demands that the intellect become a totally aware balancing instrument. But the intellect cannot react thus without involving the entire organism. Such an organism may be recognized by its burning, driving behavior. And thus it is with a society treated as organism. But here we encounter an old inertia. Societies move to the goading of ancient, reactive impulses. They demand permanence. Any attempt to display the universe of impermanence arouses rejection patterns, fear, anger and despair. Then how do we explain the acceptance of prescience? Simply: the giver of prescient visions, because he speaks of an absolute (permanent) realization may be greeted with joy by humankind even while predicting the most dire events.

—The Book of Leto
After Harq al-Ada

"It's like fighting in the dark," Alia said.

She paced the Council Chamber in angry strides, moving from the tall silvery draperies which softened the morning sun at the eastern windows, to the divans grouped beneath decorated wall panels at the room's opposite end. Her sandals crossed spice fiber rugs, parquet wood, tiles of giant garnet and, once more, rugs. At last, she stood over Irulan and Idaho who sat facing each other on divans of gray whalefur.

Idaho had resisted returning from Tabr, but she had sent peremptory orders. The abduction of Jessica was more important than ever now, but it had to wait. Idaho's mentat perceptions were required.

"These things are cut from the same pattern," Alia said. "They stink of a far-reaching plot."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Perhaps not," Irulan ventured, but she glanced questioningly at Idaho.

Alia's face lapsed into an undisguised sneer. How could Irulan be that innocent? Unless . . . Alia bent a sharp and questioning stare onto the Princess. Irulan wore a simple black aba robe which matched the shadows in her spice-indigo eyes. Her blond hair was tied in a tight coil at the nape of her neck, accenting a face thinned and toughened by years on Arrakis. She still retained the haughtiness she'd learned in the court of her father, Shaddam IV, and Alia often felt that this prideful attitude could mask the thoughts of a conspirator.

Idaho lounged in the black and green uniform of an Atreides House Guard, no insignia. It was an affectation which was secretly resented by many of Alia's actual guards, especially the amazons who gloried in insignia of office. They did not like the plain presence of the ghola-swordmaster-mentat, the more so because he was the husband of their mistress.

"So the tribes want the Lady Jessica reinstated into the Regency Council," Idaho said. "How . . ."

"They make unanimous demand!" Alia said, pointing to an embossed sheet of spice paper on the divan beside Irulan. "Farad'n is one thing, but this . . . this has the stink of other alignments!"

"What does Stilgar think?" Irulan asked.

"His signature's on that paper!" Alia said.

"But if he . . ."

"How could he deny the mother of his god?" Alia sneered.

Idaho looked up at her, thinking: *That's awfully close to the edge with Irulan!* Again, he wondered why Alia had brought him back here when she knew that he was needed at Sietch Tabr if the abduction plot were to be carried off. Was it possible she'd heard about the message sent to him by The Preacher? This thought filled his breast with turmoil. How could that mendicant mystic know the secret signal by which Paul Atreides had always summoned his swordmaster? Idaho longed to leave this pointless meeting and return to the search for an answer to that question.

"There's no doubt that The Preacher has been off planet," Alia said. "The Guild wouldn't dare deceive us in such a thing. I will have him . . ."

"Careful!" Irulan said.

"Indeed, have a care," Idaho said. "Half the planet believe him to be . . ." He shrugged. ". . . your brother." And Idaho hoped he had carried this off with a properly casual attitude. How had the man known that signal?

"But if he's a courier, or a spy of the . . ."

"He's made contact with no one from CHOAM or House Corrino," Irulan said. "We can be sure . . ."

"We can be sure of nothing!"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Alia did not try to hide her scorn. She turned her back on Irulan, faced Idaho. He knew why he was here! Why didn't he perform as expected? He was in Council because Irulan was here. The history which had brought a Princess of House Corrino into the Atreides fold could never be forgotten. Allegiance once changed, could change again. Duncan's mentat powers should be searching for flaws, for subtle deviations in Irulan's behavior.

Idaho stirred, glanced at Irulan. There were times when he resented the straight-line necessities imposed on mentat performance. He knew what Alia was thinking. Irulan would know it as well. But this Princess-wife to Paul Muad'Dib had overcome the decisions which had made her less than the royal concubine, Chani. There could be no doubt of Irulan's devotion to the royal twins. She had renounced family and Bene Gesserit in dedication to the Atreides.

"My mother is part of this plot!" Alia insisted. "For what other reason would the Sisterhood send her back here at a time such as this?"

"Hysteria isn't going to help us," Idaho said.

Alia whirled away from him, as he'd known she would. It helped him that he did not have to look at that once-beloved face which was now so twisted by alien possession.

"Well," Irulan said, "the Guild can't be completely trusted . . ."

"The Guild!" Alia sneered.

"We can't rule out the enmity of the Guild or the Bene Gesserit," Idaho said. "But we must assign them special categories as essentially passive combatants. The Guild will live up to its basic rule: Never Govern. They're a parasitic growth, and they know it. They won't do anything to kill the organism which keeps them alive."

"Their idea of which organism keeps them alive may be different from ours," Irulan drawled. It was the closest she ever came to a sneer, that lazy tone of voice which said: 'You missed a point, mentat.'

Alia appeared puzzled. She had not expected Irulan to take this tack. It was not the kind of view which a conspirator would want examined.

"No doubt," Idaho said. "But the Guild won't come out overtly against House Atreides. The Sisterhood, on the other hand, might risk a certain kind of political break which . . ."

"If they do, it'll be through a front: someone or some group they can disavow," Irulan said. "The Bene Gesserit haven't existed all of these centuries without knowing the value of self-effacement. They prefer being behind the throne, not on it."

Self-effacement? Alia wondered. Was that Irulan's choice?

"Precisely the point I make about the Guild," Idaho said. He found the necessities of argument

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

and explanation helpful. They kept his mind from other problems.

Alia strode back toward the sunlit windows. She knew Idaho's blind spot; every mentat had it. They had to make pronouncements. This brought about a tendency to depend upon absolutes, to see finite limits. They knew this about themselves. It was part of their training. Yet, they continued to act beyond self-limiting parameters. *I should've left him at Sietch Tabr,* Alia thought. *It would've been better to just turn Irulan over to Javid for questioning.*

Within her skull, Alia heard a rumbling voice: "Exactly!"

"Shut up! Shut up! Shut up!" she thought. A dangerous mistake beckoned her in these moments and she could not recognize its outlines. All she could sense was the danger. Idaho had to help her out of this predicament. He was a mentat. Mentats were necessary. The human-computer replaced the mechanical devices destroyed by the Butlerian Jihad. *Thou shalt not make a machine in the likeness of a human mind!* But Alia longed now for a compliant machine. They could not have suffered from Idaho's limitations. You could never distrust a machine.

Alia heard Irulan's drawling voice.

"A feint within a feint within a feint within a feint," Irulan said. "We all know the accepted pattern of attack upon power. I don't blame Alia for her suspicions. Of course she suspects everyone—even us. Ignore that for the moment, though. What remains as the prime arena of motives, the most fertile source of danger to the Regency?"

"CHOAM," Idaho said, his voice mentat-flat.

Alia allowed herself a grim smile. The Combine Honnete Ober Advancer Mercantiles! But House Atreides dominated CHOAM with fifty-one percent of its shares. The Priesthood of Muad'Dib held another five percent, pragmatic acceptance by the Great Houses that Dune controlled the priceless melange. Not without reason was the spice often called "the secret coinage." Without melange, the Spacing Guild's highliners could not move. Melange precipitated the "navigation trance" by which a translight pathway could be "seen" before it was traveled. Without melange and its amplification of the human immune system, life expectancy for the very rich degenerated by a factor of at least four. Even the vast middle class of the Imperium ate diluted melange in small sprinklings with at least one meal a day.

But Alia had heard the mentat sincerity in Idaho's voice, a sound which she'd been awaiting with terrible expectancy.

CHOAM. The Combine Honnete was much more than House Atreides, much more than Dune, much more than the Priesthood or melange. It was inkvines, whalefur,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

shigawire, Ixian artifacts and entertainers, trade in people and places, the Hajj, those products which came from the borderline legality of Tleilaxu technology; it was addictive drugs and medical techniques; it was transportation (the Guild) and all of the supercomplex commerce of an Empire which encompassed thousands of known planets plus some which fed secretly at the fringes, permitted there for services rendered. When Idaho said CHOAM, he spoke of a constant ferment, intrigue within intrigue, a play of powers where the shift of one duodecimal point in interest payments could change the ownership of an entire planet.

Alia returned to stand over the two seated on the divans. "Something specific about CHOAM bothers you?" she asked.

"There's always the heavy speculative stockpiling of spice by certain Houses," Irulan said.

Alia slapped her hands against her own thighs, then gestured at the embossed spice paper beside Irulan. "That *demand* doesn't intrigue you, coming as it does . . ."

"All right!" Idaho barked. "Out with it. What're you withholding? You know better than to deny the data and still expect me to . . ."

"There has been a recent, very significant increase in trade for people with four specific specialties," Alia said. And she wondered if this would be truly new information for this pair.

"Which specialties?" Irulan asked.

"Swordmasters, twisted mentats from Tleilax, conditioned medics from the Suk school, and fincap accountants, most especially the latter. Why would questionable bookkeeping be in demand right now?" She directed the question at Idaho.

Function as a mentat! he thought. Well, that was better than dwelling on what Alia had become. He focused on her words, replaying them in his mind, mentat fashion. *Swordmasters?* That had been his own calling once. Swordmasters were, of course, more than personal fighters. They could repair force shields, plan military campaigns, design military support facilities, improvise weapons. *Twisted mentats?* The Tleilaxu persisted in this hoax, obviously. As a mentat himself, Idaho knew the fragile insecurity of Tleilaxu *twisting.* Great Houses which bought such mentats hoped to control them absolutely. Impossible! Even Piter de Vries who'd served the Harkonnens in their assault on House Atreides had maintained his own essential dignity, accepting death rather than surrender his inner core of selfdom at the end. *Suk doctors?* Their conditioning supposedly guaranteed them against disloyalty to their owner-patients. Suk doctors were very expensive. Increased purchase of Suks would involve substantial exchanges of funds.

Idaho weighed these facts against

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

an increase in fincap accountants.

"Prime computation," he said, indicating a heavily-weighted assurance that he spoke of inductive fact. "There's been a recent increase in wealth among Houses Minor. Some have to be moving quietly toward Great House status. Such wealth could only come from some specific shifts in political alignments."

"We come at last to the Landsraad," Alia said, voicing her own belief.

"The next Landsraad session is almost two standard years away," Irulan reminded her.

"But political bargaining never ceases," Alia said. "And I'll warrant some among those tribal signatories . . ." She gestured at the paper beside Irulan. ". . . are among the Houses Monor who've shifted their alignment."

"Perhaps," Irulan said.

"The Landsraad," Alia said. "What better front for the Bene Gesserits? And what better agent for the Sisterhood than my own mother?" Alia planted herself directly in front of Idaho. "Well, Duncan?"

Why not function as a mentat? Idaho asked himself. He saw the tenor of Alia's suspicions now. After all, Duncan Idaho had been personal house guard to the Lady Jessica for many years.

"Duncan?" Alia pressed.

"You should inquire closely after any advisory legislation which may be under preparation for the next session of the Landsraad," Idaho said. "They might take the legal position that a Regency can't veto certain kinds of legislation—specifically, adjustments of taxation and the policing of cartels. There are others, but . . ."

"Not a very good pragmatic bet on their part if they take that position," Irulan said.

"I agree," Alia said. "The Sardaukar have no teeth and we still have our Fremen legions."

"Careful, Alia," Idaho said. "Our enemies would like nothing better than to make us appear monstrous. No matter how many legions you command, power ultimately rides on popular sufferance in an empire as scattered as this one."

"Popular sufferance?" Irulan asked.

"You mean Great House sufferance," Alia said.

"And how many Great Houses will we face under this new alliance?" Idaho asked. "Money is collecting in strange places!"

"The fringes?" Irulan asked.

Idaho shrugged. It was an unanswerable question. All of them suspected that one day the Tleilaxu or technological tinkerers on the Imperial fringes would nullify the Holtzmann Effect. On that day, shields would be useless. The whole precarious balance which maintained planetary feudatories would collapse.

Alia refused to consider that pos-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

sibility. "We'll ride with what we have," she said. "And what we have is a certain knowledge throughout the CHOAM directorate that *we* can destroy the spice if they force us to it. They won't risk that."

"Back to CHOAM again," Irulan said.

"Unless someone has managed to duplicate the sandtrout-sandworm cycle on another planet," Idaho said. He looked speculatively at Irulan, excited by this question. "Salusa Secundus?"

"My contacts there remain reliable," Irulan said. "Not Salusa."

"Then my answer stands," Alia said, staring at Idaho. "We ride with what we have."

My move, Idaho thought. He said: "Why'd you drag me away from *important work?* You could've worked this out yourself."

"Don't take that tone with me!" Alia snapped.

Idaho's eyes went wide. For an instant, he'd seen the alien on Alia's face and it was a disconcerting sight. He turned his attention to Irulan, but she had not seen—or gave that appearance.

"I don't need an elementary education," Alia said, her voice still edged with alien anger.

Idaho managed a rueful smile, but his breast ached.

"We never get far from wealth and all of its masks when we deal with power," Irulan drawled. "Paul was a social mutation and, as such, we have to remember that he shifted the old balance of wealth."

"Such mutations are not irreversible," Alia said, turning away from them as though she'd not exposed her terrible difference. "Wherever there's wealth in this empire, they know this."

"They also know," Irulan said, "that there are three people who could perpetuate that mutation: the twins and . . ." She pointed at Alia.

Are they insane, this pair? Idaho wondered.

"They will try to assassinate me!" Alia rasped.

And Idaho sat in shocked silence, his mentat awareness whirling. Assassinate Alia? Why? They could discredit her too easily. They could cut her out of the Fremen pack and hunt her down at will. But the twins, now . . . He knew he was not in the proper mentat calm for such an assessment, but he had to try. He had to be as precise as possible. At the same time, he knew that precise thinking contained undigested absolutes. Nature was not precise. The universe was not precise when reduced to his scale; it was vague and fuzzy, full of unexpected movements and changes. Humankind as a whole had to be entered into this computation as a natural phenomenon. And the whole process of precise analysis represented a chopping off, a remove from the ongoing current of the universe. He had to get at that

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

current, see it in motion.

"We were right to focus on CHOAM and the Landsraad," Irulan drawled. "And Duncan's suggestion offers a first line of inquiry for . . ."

"Money as a translation of energy can't be separated from the energy it expresses," Alia said. "We all know this. But we have to answer three specific questions: When? Using what weapons? Where?"

The twins . . . the twins, Idaho thought. *It's the twins who're in danger, not Alia.*

"You're not interested in who or how?" Irulan asked.

"If House Corrino or CHOAM or any other group employs human instruments on this planet," Alia said, "we stand a better than sixty percent chance of finding them before they act. Knowing when they'll act and where gives us a bigger leverage on those odds. How? That's just asking *what weapons?*"

Why can't they see it as I see it? Idaho wondered.

"All right," Irulan said. "When?"

"When attention is focused on someone else," Alia said.

"Attention was focused on your mother at the Convocation," Irulan said. "There was no attempt."

"Wrong place," Alia said.

What is she doing? Idaho wondered.

"Where, then?" Irulan asked.

"Right here in the Keep," Alia said. "It's the place where I'd feel most secure and least on my guard."

"What weapons?" Irulan asked.

"Conventional—something a Fremen might have on his person: poisoned crysknife, maula . . ."

"They've not tried a hunter-seeker in a long while," Irulan said.

"Wouldn't work in a crowd," Alia said. "There'll have to be a crowd."

"Biological weapon?" Irulan asked.

"An infectious agent?" Alia asked, not masking her incredulity. How could Irulan think an infectious agent would succeed against the immunological barriers which protected an Atreides?

"I was thinking more in the line of some animal," Irulan said. "A small pet, say, trained to bite a specific victim, inflicting a poison with its bite."

"The House ferrets will prevent that," Alia said.

"One of *them,* then?" Irulan asked.

"Couldn't be done. The House ferrets would reject an outsider, kill it. You know that."

"I was just exploring possibilities in the hope that . . ."

"I'll alert my guards," Alia said.

As Alia said *guards,* Idaho put a hand over his Tleilaxu eyes, trying to prevent the demanding involvement which swept over him. It was Rhajia, the movement of Infinity as expressed by Life, the latent cup of total immersion in mentat aware-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ness which lay in wait for every mentat. It threw his awareness onto the universe like a net, falling, defining the shapes within it. He saw the twins crouching in darkness while giant claws raked the air about them.

"No," he whispered.

"What?" Alia looked at him as though surprised to find him still there.

He took his hand from his eyes.

"The garments that House Corrino sent?" he asked. "Have they been sent on to the twins?"

"Of course," Irulan said. "They're perfectly safe."

"No one's going to try for the twins at Sietch Tabr," Alia said. "Not with all of those Stilgar-trained guards around."

Idaho stared at her. He had no particular datum to reinforce an argument based on mentat computation, but he knew. He knew. This thing he'd experienced came very close to the visionary power which Paul had known. Neither Irulan nor Alia would believe it coming from him.

"I'd like to alert the port authorities against allowing the importation of any outside animals," he said.

"You're not taking Irulan's suggestion seriously," Alia protested.

"Why take any chances?" he asked.

"Tell that to the smugglers," Alia said. "I'll put my dependence on the House ferrets."

Idaho shook his head. What could House ferrets do against claws the size of those he envisioned? But Alia was right. Bribes in the right places, one acquiescent Guild navigator, and anyplace in the Empty Quarter became a landing port. The Guild would resist a front position in any attack on House Atreides, but . . . if the price were high enough . . . Well, the Guild could only be thought of as something like a geological barrier which made attacks difficult, but not impossible. They could always protest that they were just "a transportation agency." How could they know to what use a particular cargo would be put?

Alia broke the silence with a purely Fremen gesture, a raised fist with thumb horizontal. She accompanied the gesture with a traditional expletive which meant, "I give typhoon conflict." She obviously saw herself as the only logical target for assassins, and the gesture protested a universe full of undigested threats. She was saying she would hurl the death wind at anyone who attacked her.

Idaho felt the hopelessness of any protest. He saw that she no longer suspected him. He was going back to Tabr and she expected a perfectly executed abduction of the Lady Jessica. He lifted himself from the divan in an adrenaline surge of anger, thinking: *If only Alia were the target! If only assassins could get to her!* For an in-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

stant, he rested his hand on his own knife, but it was not in him to do this. Far better, though, that she die a martyr than live to be discredited and hounded into a sandy grave.

"Yes," Alia said, misinterpreting his expression as concern for her. "You'd best hurry back to Tabr." And she thought: *How foolish of me to suspect Duncan! He's mine, not Jessica's!* It'd been the demand from the tribes that'd upset her, Alia thought. She waved an airy good-bye to Idaho as he left.

Idaho left the Council Chamber feeling hopeless. Not only was Alia blind with her alien possession, but she became more insane with each crisis. She'd already passed her danger point and was doomed. But what could be done for the twins? Who could he convince? Stilgar? And what could Stilgar do that he wasn't already doing?

The Lady Jessica, then?

Yes, he'd explore that possibility—but she, too, might be far gone in plotting with her Sisterhood. He carried few illusions about that Atreides concubine. She might do anything at the command of the Bene Gesserits, even turn against her own grandchildren.

Good government never depends upon laws, but upon the personal qualities of those who govern. The machinery of government is always subordinate to the will of those who administer that machinery. The most important element of government, therefore, is the method of choosing leaders.

—Law and Governance
The Spacing Guild Manual

Why does Alia wish me to share the morning audience? Jessica wondered. *They've not voted me back into the Council.*

Jessica stood in the anteroom to the Keep's Great Hall. This anteroom would've been a great hall anyplace else than Arrakis. Following the Atreides lead, buildings in Arrakeen had become ever more gigantic as wealth and power concentrated, and this room epitomized her misgivings. She did not like this anteroom with its tiled floor depicting her son's victory over Shaddam IV.

She caught a reflection of her own face in the polished plasteel door which led into the Great Hall. Returning to Dune forced such comparisons upon her, and Jessica noted only the signs of aging in her own features: the oval face had developed tiny lines and the eyes were more brittle in their indigo reflection. She could remember when there had been white around the blue of her eyes. Only the careful ministrations of a professional dresser maintained the polished bronze of her hair. Her nose remained small, mouth generous, and her body was still slender, but even the Bene Gesserit-trained muscles had a tendency toward slowing with the passage of time. Some

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

might not note this and say: "You haven't changed a bit!" But the Sisterhood's training was a two-edged sword; small changes seldom escaped the notice of people thus trained.

And the lack of small changes in Alia had not escaped Jessica's notice.

Javid, the master of Alia's appointments, stood at the great door being very official this morning. He was a robed genie with a cynical smile on his round face. Javid struck Jessica as a paradox: a well-fed Fremen. Noting her attention upon him, Javid smiled knowingly, shrugged. His attendance in Jessica's entourage had been short, as he'd known it would be. He hated Atreides, but was Alia's man in more ways than one, if the rumors were to be believed.

Jessica saw the shrug, thought: *This is the age of the shrug. He knows I've heard all the stories about him and he doesn't care. Our civilization could well die of indifference within it before succumbing to external attack.*

The guards Gurney had left with her before leaving for the smugglers and the desert hadn't liked her coming here without their attendance. But Jessica felt oddly safe. Let someone make a martyr of her in this place; Alia wouldn't survive it. Alia would know that.

When Jessica failed to respond to his shrug and smile, Javid coughed, a belching disturbance of his larynx which could only have been achieved with practice. It was like a secret language. It said: "We understand the nonsense of all this pomp, My Lady. Isn't it wonderful what humans can be made to believe!"

Wonderful! Jessica agreed, but her face gave no indication of the thought.

The anteroom was quite full now, all of the morning's permitted supplicants having received their right of entrance from Javid's people. The outer doors had been closed. Supplicants and attendants kept a polite distance from Jessica, but observed that she wore the formal black aba of a Fremen Reverend Mother. This would raise many questions. No mark of Muad'Dib's priesthood could be seen on her person. Conversations hummed as the people divided their attention between Jessica and the small side door through which Alia would come to lead them into the Great Hall. It was obvious to Jessica that the old pattern which defined where the Regency's powers lay had been shaken.

I did that just by coming here, she thought. *But I came because Alia invited me.*

Reading the signs of disturbance, Jessica realized Alia was deliberately prolonging this moment, allowing the subtle currents to run their course here. Alia would be watching from a spy hole, of course. Few subtleties of Alia's be-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

havior escaped Jessica, and she felt with each passing minute how right she'd been to accept the mission which the Sisterhood had pressed upon her.

"Matters cannot be allowed to continue in this way," the leader of the Bene Gesserit delegation had argued. "Surely, the signs of decay have not escaped you—you of all people! We know why you left us, but we know also how you were trained. Nothing was stinted in your education. You are an adept of the Panoplia Prophetica and you must know when the souring of a powerful religion threatens us all."

Jessica had pursed her lips in thought while staring out a window at the soft signs of spring at Castle Caladan. She did not like to direct her thinking in such a logical fashion. One of the first lessons of the Sisterhood had been to reserve an attitude of questioning distrust for anything which came in the guise of logic. But the members of the delegation had known that, too.

How moist the air had been that morning, Jessica thought, looking around Alia's anteroom. How fresh and moist. Here, there was a sweaty dampness to the air which evoked a sense of uneasiness in Jessica, and she thought: *I've reverted to Fremen ways.* The air was too moist in this sietch-aboveground. What was wrong with the Master of the Stills? Paul would never have permitted such laxness.

She noted that Javid, his shiny face alert and composed, appeared not to have noticed the fault of dampness in the anteroom's air. Bad training for one born on Arrakis.

The members of the Bene Gesserit delegation had wanted to know if she required proofs of their allegations. She'd given them an angry answer out of their own manuals: "All proofs inevitably lead to propositions which have no proof! All things are known because we want to believe in them."

"But we have submitted these questions to mentats," the delegation's leader had protested.

Jessica, astonished, had stared at the woman. "I marvel that you have reached your present station and not yet learned the limits of mentats," Jessica had said.

At which, the delegation had relaxed. Apparently, it had all been a test, and she had passed. They'd feared, of course, that she had lost all touch with those balancing abilities which were at the core of Bene Gesserit training.

Now, Jessica became softly alert as Javid left his door station and approached her. He bowed. "My Lady. It occurred to me that you might not've heard the latest exploit of The Preacher."

"I get daily reports on everything which occurs here," Jessica said. *Let him take that back to Alia!*

Javid smiled. "Then you know he rails against your family. Only

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

last night, he preached in the south suburb and no one dared touch him. You know why, of course."

"Because they think he's my son come back to them," Jessica said, her voice bored.

"This question has not yet been put to the mentat, Idaho," Javid said. "Perhaps that should be done and the thing settled."

Jessica thought: Here's one who truly doesn't know a mentat's limits, although he dares put horns on one—in his dreams if not in fact.

"Mentats share the fallibilities of those who use them," she said. "The human mind, as is the case with the mind of any animal, is a resonator. It responds to resonances in the environment. The mentat has learned to extend his awareness across many parallel loops of causality and to proceed along those loops for long chains of consequences." *Let him chew on that!*

"This Preacher doesn't disturb you, then?" Javid asked, his voice abruptly formal and portentous.

"I find him a healthy sign," she said. "I don't want him bothered."

Javid clearly had not expected that blunt a response. He tried to smile, failed, then: "The ruling Council of the Church which deifies thy son will, of course, bow to your wishes if you insist. But certainly, some explanation . . ."

"Perhaps you'd rather I explained how *I* fit into your schemes," she said.

Javid stared at her narrowly. "Madame, I see no logical reason why thou refusest to denounce this Preacher. He cannot be thy son. I make a reasonable request: denounce him."

This is a set piece, Jessica thought. *Alia put him up to it.*

She said: "No."

"But he defiles the name of thy son! He preaches abominable things, cries out against thy holy daughter. He incites the populace against us. When asked, he said that even thou possess the nature of evil and that thy . . ."

"Enough of this nonsense!" Jessica said. "Tell Alia that I refuse. I've heard nothing but tales of this Preacher since returning. He bores me."

"Does it bore thee, Madame, to learn that in his latest defilement, he has said that thou wilt not turn against him? And here, clearly, thou . . ."

"Evil as I am, I still won't denounce him," she said.

"It is no joking matter, Madame!"

Jessica waved him away angrily. "Be gone!" She spoke with sufficient carrying power that others heard, forcing him to obey.

His eyes glared with rage, but he managed a stiff bow and returned to his position at the door.

This argument fitted neatly into the observations Jessica already had made. When he spoke of Alia, Javid's voice carried the husky undertones of a lover; no mistaking it.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The rumors no doubt were true. Alia had allowed her life to degenerate in a terrible way. Observing this, Jessica began to harbor the suspicion that Alia was a willing participant in Abomination. Was it a perverse will to self-destruction? Because surely Alia was working to destroy herself and the power base which fed on her brother's teachings.

Faint stirrings of unease began to grow apparent in the anteroom. The aficionados of this place would know when Alia delayed too long and, by now, they'd all heard about Jessica's peremptory dismissal of Alia's favorite.

Jessica sighed. She felt that her body had walked into this place with her soul creeping behind. Movements among the courtiers were so transparent! The seeking out of important people was a dance like the wind through a field of cereal stalks. The cultivated inhabitants of this place furrowed their brows and gave pragmatic rating numbers to the importance of each of their fellows. Obviously, her rebuff of Javid had hurt him; few spoke to him now. But the others! Her trained eye could read the rating numbers in the satellites attending the powerful.

They do not attend me because I am dangerous, she thought. *I have the stink of someone Alia fears.*

Jessica glanced around the room, seeing eyes turn away. They were such seriously futile people that she found herself wanting to cry out against their ready-made justifications for pointless lives. Oh, if only The Preacher could see this room as it looked now!

A fragment of a nearby conversation caught her attention. A tall, slender Priest was addressing his coterie, no doubt supplicants here under his auspices. "Often, I must speak otherwise than I think," he said. "This is called diplomacy."

The resultant laughter was too loud, too quickly silenced. People in the group saw that Jessica had overheard.

My Duke would've transported such a one to the farthest available hellhole! Jessica thought. *I've returned none too soon.*

She knew now that she'd lived on faraway Caladan in an insulated capsule which had allowed only the most blatant of Alia's excesses to intrude. *I contributed to my own dream-existence,* she thought. Caladan had been something like that insulation provided by a really first-class frigate riding securely in the hold of a Guild Highliner. Only the most violent maneuvers could be felt, and those as mere softened movements.

How seductive it is to live in peace, she thought.

The more she saw of Alia's court, the more sympathy Jessica felt for the words reported as coming from this blind Preacher. Yes, Paul might've said such words on seeing what had become of his

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

realm. And Jessica wondered what Gurney had found out among the smugglers.

Her first reaction to Arrakeen had been the right one, Jessica realized. On that first ride into the city with Javid, her attention had been caught by armored screens around dwellings, the heavily-guarded pathways and alleys, the patient watchers at every turn, the tall walls and indications of deep underground places revealed by thick foundations. Arrakeen had become an ungenerous place, a contained place, unreasonable and self-righteous in its harsh outlines.

Abruptly, the anteroom's small side door opened. A vanguard of priestess amazons spewed into the room with Alia shielded behind them, haughty and moving with a confined awareness of real and terrible power. Alia's face was composed; no emotion betrayed itself as her gaze caught and held her mother's. But both knew the battle had been joined.

At Javid's command, the giant doors into the Great Hall were opened, moving with a silent and inevitable sense of hidden energies.

Alia came to her mother's side as the guards enfolded them.

"Shall we go in now, Mother?" Alia asked.

"It's high time," Jessica said. And she thought, seeing the sense of gloating in Alia's eyes: *She thinks she can destroy me and remain unscathed! She's mad!*

And Jessica wondered if that might not have been what Idaho had wanted. He'd sent a message, but she'd been unable to respond. Such an enigmatic message: "Danger. Must see you." It had been written in a variant of the old Chakobsa where the particular word chosen to denote danger signified a plot.

I'll see him immediately when I return to Tabr, she thought.

This is the fallacy of power: ultimately it is effective only in an absolute, a limited universe. But the basic lesson of our relativistic universe is that things change. Any power must always meet a greater power. Paul Muad'Dib taught this lesson to the Sardaukar on the Plains of Arrakeen. His descendants have yet to learn the lesson for themselves.

—The Preacher at Arrakeen

The first supplicant for the morning audience was a Kadeshian troubador, a pilgrim of the Hajj whose purse had been emptied by Arrakeen mercenaries. He stood on the water-green stone of the chamber floor with no air of begging about him.

Jessica admired his boldness from where she sat with Alia atop the seven-step platform. Identical thrones had been placed here for mother and daughter, and Jessica made particular note of the fact that Alia sat on the right, the *masculine* position.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

As for the Kadeshian troubador, it was obvious that Javid's people had passed him for just this quality he now displayed, his boldness. The troubador was expected to provide some entertainment for the courtiers of the Great Hall; it was the payment he'd make in lieu of the money he no longer possessed.

From the report of the Priest-Advocate who now pled the troubador's case, the Kadeshian had retained only the clothing on his back and the baliset slung over one shoulder on a leather cord.

"He says he was fed a dark drink," the Advocate said, barely hiding the smile which sought to twist his lips. "If it please Your Holiness, the drink left him helpless but awake while his purse was cut."

Jessica studied the troubador while the Advocate droned on and on with a false subservience, his voice full of mucky morals. The Kadeshian was tall, easily two meters. He had a roving eye which showed intelligent alertness and humor. His golden hair was worn to the shoulders in the style of his planet, and there was a sense of virile strength in the broad chest and neatly tapering body which a gray Hajj robe could not conceal. His name was given as Tagir Mohandis and he was descended from merchant engineers, proud of his ancestry and himself.

Alia finally cut off the pleading with a hand wave, spoke without turning: "The Lady Jessica will render first judgment in honor of her return to us."

"Thank you, Daughter," Jessica said, stating the order of ascendancy to all who heard. *Daughter!* So this Tagir Mohandis was part of their plan. Or was he an innocent dupe? This judgment was designed to open attack on herself, Jessica realized. It was obvious in Alia's attitude.

"Do you play that instrument well?" Jessica asked, indicating the nine-string baliset on the troubador's shoulder.

"As well as the great Gurney Halleck himself!" Tagir Mohandis spoke loudly for all in the hall to hear and his words evoked an interested stir among the courtiers.

"You seek the gift of transport money," Jessica said. "Where would that money take you?"

"To Salusa Secundus and Farad'n's court," Mohandis said. "I've heard he seeks troubadors and minstrels, that he supports the arts and builds a great renaissance of cultivated life around him."

Jessica refrained from glancing at Alia. They'd known, of course, what Mohandis would ask. She found herself enjoying this byplay. Did they think her unable to meet this thrust?

"Will you play for your passage?" Jessica asked. "My terms are Fremen terms. If I enjoy your music, I may keep you here to smooth away my cares; if your music of-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

fends me, I may send you to toil in the desert for your passage money. If I deem your playing just right for Farad'n, who is said to be an enemy of the Atreides, then I will send you to him with my blessing. Will you play on these terms, Tagir Mohandis?"

He threw his head back in a great roaring laugh. His blond hair danced as he unslung the baliset and tuned it deftly to indicate acceptance of her challenge.

The crowd in the chamber started to press closer, but were held back by courtiers and guards.

Presently, Mohandis strummed a note, holding the bass hum of the side strings with a fine attention to their compelling vibration. Then, lifting his voice in a mellow tenor, he sang, obviously improvising, but his touch so deft that Jessica was enthralled before she focused on his lyrics:

"You say you long for Caladan seas,
Where once you ruled, Atreides,
Without surcease—
But exiles dwell in stranger-lands!
You say 'twere bitter, men so rude,
To sell your dreams of Shai Hulud,
For tasteless food—
And exiles, dwell in stranger-lands.
You make Arrakis grow infirm,
Silence the passage of the worm
And end your term—
As exiles, dwell in stranger-lands.
Alia! They name you Coan-Teen,
That spirit who is never seen
Until . . ."

"Enough!" Alia screamed. She pushed herself half out of her throne. "I'll have you . . ."

"Alia!" Jessica spoke just loud enough, voice pitched just right to avoid confrontation while gaining full attention. It was a masterful use of Voice and all who heard it recognized the trained powers in this demonstration. Alia sank back into her seat and Jessica noted that she showed not the slightest discomfiture.

This, too, was anticipated, Jessica thought. *How very interesting.*

"The judgment on this first one is mine," Jessica reminded her.

"Very well." Alia's words were barely audible.

"I find this one a fitting gift for Farad'n," Jessica said. "He has a tongue which cuts like a crysknife. Such bloodletting as that tongue can administer would be healthy for our own court, but I'd rather he ministered to House Corrino."

A light rippling of laughter spread through the hall.

Alia permitted herself a snorting exhalation. "Do you know what he called me?"

"He didn't call you anything, Daughter. He but reported that which he or anyone else could hear in the streets. There, they call you Coan-Teen . . ."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"The female death-spirit who walks without feet," Alia snarled.

"If you put away those who report accurately, you'll keep only those who know what you want to hear," Jessica said, her voice sweet. "I can think of nothing more poisonous than to rot in the stink of your own reflections."

Audible gasps came from those immediately below the thrones.

Jessica focused on Mohandis, who remained silent, standing completely uncowed. He awaited whatever judgment was passed upon him as though it did not matter. Mohandis was exactly the kind of man her Duke would have chosen to have by his side in troubled times: one who acted with confidence of his own judgment, but accepted whatever befell, even death, without berating his fate. Then why had he chosen this course?

"Why did you sing those particular words?" Jessica asked him.

He lifted his head to speak clearly: "I'd heard that the Atreides were honorable and open-minded. I'd a thought to test it and perhaps to stay here in your service, thereby having the time to seek out those who robbed me and deal with them in my own fashion."

"He dares test *us*?" Alia muttered.

"Why not?" Jessica asked.

She smiled down at the troubador to signal good will. He had come into this hall only because it offered him opportunity for another adventure, another passage through his universe. Jessica found herself tempted to bind him to her own entourage, but Alia's reaction boded evil for brave Mohandis. There were also those signs which said this was the course expected of the Lady Jessica—take a brave and handsome troubador into her service, as she'd taken brave Gurney Halleck. Best Mohandis were sent on his way, though it rankled to lose such a fine specimen to Farad'n.

"He shall go to Farad'n," Jessica said. "See that he gets his passage money. Let his tongue draw the blood of House Corrino and see how he survives it."

Alia glowered at the floor, then produced a belated smile. "The wisdom of the Lady Jessica prevails," she said, waving Mohandis away.

That did not go the way she wanted, Jessica thought, but there were indicators in Alia's manner that a more potent test remained.

Another supplicant was being brought forward.

Jessica, noting her daughter's reaction, felt the gnawing of doubts. The lesson learned from the twins was needed here. Let Alia be *Abomination,* still she was one of the pre-born. She could know her mother as she knew herself. It did not compute that Alia would misjudge her mother's reactions in the matter of the troubador. Why had

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Alia staged that confrontation? To distract me?

There was no more time to reflect. The second supplicant had taken his place below the twin thrones, his Advocate at his side.

The supplicant was a Fremen this time, an old man with the sand marks of the desert-born on his face. He was not tall, but had a wiry body and the long dishdasha worn over a stillsuit gave him a stately appearance. The robe was in keeping with his narrow face and beaked nose, the glaring eyes of blue-on-blue. He wore no stillsuit and seemed uncomfortable without it. The gigantic space of the Audience Hall must seem to him like the dangerous open air which robbed his flesh of its priceless moisture. Under the hood which had been thrown partly back, he wore the knotted keffiya headdress of a Naib.

"I am Ghadhean al-Fali," he said, placing one foot on the steps to the thrones to signify his status above that of the mob. "I was one of Muad'Dib's death commandos and I am here concerning a matter of the desert."

Alia stiffened only slightly, a small betrayal. Al-Fali's name had been on that demand to place Jessica on the Council. *Matter of the desert!* Jessica thought.

Ghadhean al-Fali had spoken before his Advocate could open the pleading, and with that formal Fremen phrase had placed them on notice that he brought something of concern to all of Dune before them, and that he spoke with the authority of a Fedaykin who had offered his life beside that of Paul Muad'Dib. Jessica doubted that this was what Ghadhean al-Fali had told Javid or the Advocate General in seeking audience here. Her guess was confirmed as an official of the Priesthood rushed forward from the rear of the chamber waving the black cloth of intercession.

"My Ladies!" the official called out. "Do not listen to this man! He comes under false . . ."

Jessica, watching the Priest run toward them, caught a movement out of the corners of her eyes, saw Alia's hand signaling in the old Atreides battle language: "Now!" Jessica could not determine where the signal was directed, but acted instinctively with a lurch to the left, taking throne and all. She rolled away from the crashing throne as she fell, came to her feet as she heard the sharp *spat* of a maula pistol . . . and again. But she was moving with the first sound, felt something tug at her right sleeve. She dove into the throng of supplicants and courtiers gathered below the dais. Alia, she noted, had not moved.

Surrounded by people, Jessica stopped.

Ghadhean al-Fali, she saw, had dodged to the other side of the dais, but the Advocate remained in his original position.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

It had all happened with the rapidity of an ambush, but everyone in the Hall knew where trained reflexes should have taken anyone caught by surprise. Alia and the Advocate stood frozen in their exposure.

A disturbance toward the middle of the room caught Jessica's attention and she forced a way through the throng, saw four supplicants holding the Priest official. His black cloth of intercession lay near his feet, a maula pistol exposed in its folds.

Al-Fali thrust his way past Jessica, looked from the pistol to the Priest. The Fremen let out a cry of rage, came up from his belt with an *achag* blow, the fingers of his left hand rigid. They caught the Priest in the throat and he collapsed, strangling. Without a backward glance at the man he had killed, the old Naib turned an angry face toward the dais.

"Dalal-il 'an-nubuwwa!" al-Fali called, placing both palms against his forehead, then lowering them. "The Qadis as-Salaf will not let me be silenced! If I do not slay those who interfere, others will slay them!"

He thinks he was the target, Jessica realized. She looked down at her sleeve, put a finger in the neat hole left by the maula pellet. Poisoned, no doubt.

The supplicants had dropped the Priest. He lay writhing on the floor, dying with his larynx crushed. Jessica motioned to a pair of shocked courtiers standing at her left, said: "I want that man saved for questioning. If he dies, you die!" As they hesitated, peering toward the dais, she used Voice on them: "Move!"

The pair moved.

Jessica thrust herself to al-Fali's side, nudged him: "You are a fool, Naib! They were after me, not you."

Several people around them heard her. In the immediate shocked silence, al-Fali glanced at the dais with its one toppled throne and Alia still seated on the other. The look of realization which came over his face could've been read by a novice.

"Fedaykin," Jessica said, reminding him of his old service to her Family, "we who have been scorched know how to stand back-to-back."

"Trust me, My Lady," he said, taking her meaning immediately.

A gasp behind Jessica, brought her whirling, and she felt al-Fali move to stand with his back to her. A woman in the gaudy garb of a city Fremen was straightening from beside the Priest on the floor. The two courtiers were nowhere to be seen. The woman did not even glance at Jessica, but lifted her voice in the ancient keening of her people—the call for those who serviced the death stills, the call for them to come and gather a body's water into the tribal cistern. It was

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

a curiously incongruous noise coming from one dressed as this woman was. Jessica felt the persistence of the old ways even as she saw the falseness in this city woman. The creature in the gaudy dress obviously had killed the Priest to make sure he was silenced.

Why did she bother? Jessica wondered. *She had only to wait for the man to die of asphyxiation.* The act was a desperate one, a sign of deep fear.

Alia sat forward on the edge of her throne, her eyes aglitter with watchfulness. A slender woman wearing the braid knots of Alia's own guards strode past Jessica, bent over the Priest, straightened and looked back at the dais. "He is dead."

"Have him removed," Alia called. She motioned to guards below the dais. "Straighten the Lady Jessica's chair."

So you'll try to brazen it out! Jessica thought. Did Alia think anyone had been fooled? Al-Fali had spoken of the Qadis as-Salaf, calling on the holy fathers of Fremen mythology as his protectors. But no supernatural agency had brought a maula pistol into this room where no weapons were permitted. A conspiracy involving Javid's people was the only answer, and Alia's unconcern about her own person told everyone she was a part of that conspiracy.

The old Naib spoke over his shoulder to Jessica: "Accept my apologies, My Lady. We of the desert come to you as our last desperate hope, and now we see that you still have need of us."

"Matricide does not sit well on my daughter," Jessica said.

"The tribes will hear of this," al-Fali promised.

"If you have such desperate need of me," Jessica asked, "why did you not approach me at the Convocation in Sietch Tabr?"

"Stilgar would not permit it."

Ahhh, Jessica thought, *the rule of the Naibs! In Tabr, Stilgar's word was law.*

The toppled throne had been straightened. Alia motioned for her mother to return, said: "All of you please note the death of that traitor-Priest. Those who threaten me, die." She glanced at al-Fali. "My thanks to you, Naib."

"Thanks for a mistake," al-Fali muttered. He looked at Jessica. "You were right. My rage removed one who should've been questioned."

Jessica whispered, "Mark those two courtiers and the woman in the colorful dress, Fedaykin. I want them taken and questioned."

"It will be done," he said.

"If we get out of here alive," Jessica said. "Come, let us go back and play our parts."

"As you say, My Lady."

Together, they returned to the dais, Jessica mounting the steps and resuming her position beside

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Alia, al-Fali remaining in the supplicant's position below.

"Now," Alia said.

"One moment, Daughter," Jessica said. She held up her sleeve, exposed the hole with a finger through it. "The attack was aimed at me. The pellet almost found me even as I was dodging. You will all note that the maula pistol is no longer down there." She pointed. "Who has it?"

There was no response.

"Perhaps it could be traced," Jessica said.

"What nonsense!" Alia said. "I was the . . ."

Jessica half turned toward her daughter, motioned with her left hand. "Someone down there has that pistol. Don't you have a fear that . . ."

"One of my guards has it!" Alia said.

"Then that guard will bring the weapon to me," Jessica said.

"She's already taken it away."

"How convenient," Jessica said.

"What are you saying?" Alia demanded.

Jessica allowed herself a grim smile. "I am saying that two of your people were charged with saving that *traitor-Priest.* I warned them that they would die if he died. They will die."

"I forbid it!"

Jessica merely shrugged.

"We have a brave Fedaykin here," Alia said, motioning toward al-Fali. "This argument can wait."

"It can wait forever," Jessica said, speaking in Chakobsa, her words double-barbed to tell Alia that no argument would stop the death command.

"We shall see!" Alia said. She turned to al-Fali. "Why are you here, Ghadhean al-Fali?"

"To see the mother of Muad'Dib," the Naib said. "What is left of the Fedaykin, that band of brothers who served her son, pooled their poor resources to buy my way in here past the avaricious guardians who shield the Atreides from the realities of Arrakis."

Alia said: "Anything the Fedaykin require, they have only . . ."

"He came to see me," Jessica interrupted. "What is your desperate need, Fedaykin?"

Alia said: "I speak for the Atreides here! What is . . ."

"Be silent, you murderous Abomination!" Jessica snapped. "You tried to have me killed, *Daughter!* I say it for all here to know. You can't have everyone in this hall killed to silence them—as that Priest was silenced. Yes, the Naib's blow would've killed the man, but he could've been saved. He could've been questioned! You have no concern that he was silenced. Spray your protests upon us as you will, your guilt is written in your actions!"

Alia sat in frozen silence, face pale. And Jessica, watching the play of emotions across her daughter's face, saw a terrifyingly famil-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

iar movement of Alia's hands, an unconscious response which once had identified a deadly enemy of the Atreides. Alia's fingers moved in a tapping rhythm—little finger twice, index finger three times, ring finger twice, little finger once, ring finger twice . . . and back through the tapping in the same order. The old Baron!

The focus of Jessica's eyes caught Alia's attention and she glanced down at her hand, held it still, looked back at her mother to see the terrible recognition. A gloating smile locked Alia's mouth.

"So you have your revenge upon us," Jessica whispered.

"Have you gone mad, Mother?" Alia asked.

"I wish I had," Jessica said. And she thought: *She knows I will confirm this to the Sisterhood. She knows. She may even suspect I'll tell the Fremen and force her into a Trial of Possession. She cannot let me leave here alive.*

"Our brave Fedaykin waits while we argue," Alia said.

Jessica forced her attention back to the old Naib. She brought her responses under control, said: "You came to see me, Ghadhean."

"Yes, My Lady. We of the desert see terrible things happening. The Little Makers come out of the sand as was foretold in the oldest prophecies. Shai Hulud no longer can be found except in the deeps of the Empty Quarter. We have abandoned our friend, the desert!"

Jessica glanced at Alia, who merely motioned for Jessica to continue. Jessica looked out over the throng in the Chamber, saw the shocked alertness on every face. The import of the fight between mother and daughter had not been lost on this throng, and they must wonder why the audience continued. She returned her attention to al-Fali.

"Ghadhean, what is this talk of Little Makers and the scarcity of sandworms?"

"Mother of Moisture," he said, using her old Fremen title, "we were warned of this in the Kitab al-Ibar. We beseech thee. Let it not be forgotten that on the day Muad'Dib died, Arrakis turned by itself! We cannot abandon the desert."

"Hah!" Alia sneered. "The superstitious riffraff of the Inner Desert fear the ecological transformation. They . . ."

"I hear you, Ghadhean," Jessica said. "If the worms go, the spice goes. If the spice goes, what coin do we have to buy our way?"

Sounds of surprise: gasps and startled whispers could be heard spreading across the Great Hall. The Chamber echoed to the sound.

Alia shrugged. "Superstitious nonsense!"

Al-Fali lifted his right hand to point at Alia. "I speak to the Mother of Moisture, not to the Coan-Teen!"

Alia's hands gripped the arms of

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

her throne, but she remained seated.

Al-Fali looked at Jessica. "Once, it was the land where nothing grew. Now there are plants. They spread like lice upon a wound. There have been clouds and rain along the Belt of Dune! Rain, My Lady! Oh, precious mother of Muad'Dib, as sleep is death's brother, so is rain on the Belt of Dune. It is the death of us all."

"We do only what Liet-Kynes and Muad'Dib himself designed for us to do," Alia protested. "What is all of this superstitious gabble? We revere the words of Liet-Kynes, who told us: 'I wish to see this entire planet caught up in a net of green plants.' So it will be."

"And what of the worms and the spice?" Jessica asked.

"There'll always be *some* desert," Alia said. "The worms will survive."

She's lying, Jessica thought. *Why does she lie?*

With an abrupt sensation of double vision, Jessica felt her awareness lurch, propelled by the old Naib's words. It was the unmistakable *adab,* the demanding memory which came upon one of itself. It came without qualifications and held her senses immobile while the lesson of the past was impressed upon her awareness. She was caught up in it completely, a fish in the net. Yet, she felt the demand of it as a *human-most* moment, each small part a reminder of creation. Every element of the lesson-memory was real, but insubstantial in its constant change and she knew this was the closest she might ever come to experiencing the prescience which had inflicted itself upon her son.

Alia lied because she was possessed by one who would destroy the Atreides. She was, in herself, the first destruction. Then, al-Fali spoke the truth: the sandworms are doomed unless the course of the ecological transformation is modified.

In the pressure of revelation, Jessica saw the people of the audience reduced to slow motion, their roles identified for her. She could pick the ones charged with seeing that she did not leave here alive! And the path through them lay there in her awareness as though outlined in bright light—confusion among them, one of them feinted to stumble into another, whole groups tangled. She saw, also, that she might leave this Great Hall only to fall into other hands. Alia did not care if she created a martyr. No—the *thing which possessed her* did not care.

Now, in this frozen time, Jessica chose a way to save the old Naib and send him as messenger. The way through the audience remained indelibly clear. How simple it was! They were buffoons with barricaded eyes, their shoulders held in positions of immovable defense. Each position upon that great floor could be seen as an atropic colli-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

sion from which dead flesh might slough away to reveal skeletons. Their bodies, their clothes and their faces described individual hells—the insucked breast of concealed terrors, the glittering hook of a jewel become substitute armor, and the mouths were judgments full of frightened absolutes, cathedral prisms of eyebrows showing lofty and religious sentiments which their loins denied.

Jessica sensed dissolution in the shaping forces loosed upon Arrakis. Al-Fali's voice had been like a distrans in her soul, awakening a beast from the deepest part of her.

In an eyeblink, Jessica moved from the *adab* into the universe of movement, but it was a different universe from the one which had commanded her attention only a second before.

Alia was starting to speak, but Jessica said: "Silence!" Then: "There are those who fear that I have returned without reservation to the Sisterhood. But since that day in the desert when the Fremen gave the gift of life to me and to my son, I have been Fremen!" And she lapsed into the old tongue which only those in this room who could profit by it would understand: "Onsar akhaka zeliman aw maslumen!" "*Support your brother in his time of need, whether he be just or unjust!*"

Her words had the desired effect, a subtle shifting of positions within the Chamber.

But Jessica raged on: "This Ghadhean al-Fali, an honest Fremen, comes here to tell me what others should have revealed to me. Let no one deny this! The ecological transformation has become a tempest out of control!"

Wordless confirmations could be seen throughout the room.

"And my daughter delights in this!" Jessica said. "Mektub al-mellah! You carve wounds upon my flesh and write there in salt! Why did the Atreides find a home here? Because the *mohalata* was natural to us. To the Atreides, government was always a protective partnership: *mohalata*, as the Fremen have always known it. Now, look at her!" Jessica pointed at Alia. "She laughs alone at night in contemplation of her own evil! Spice production will fall to nothing or, at best, a fraction of its former level! And when word of *that* gets out . . ."

"We'll have a corner on the most priceless product in the universe!" Alia shouted.

"We'll have a corner on hell!" Jessica raged.

And Alia lapsed into the most ancient Chakobsa, the Atreides private language with its difficult glottal stops and clicks: "Now, you know, *Mother!* Did you think a granddaughter of Baron Harkonnen would not appreciate all of the lifetimes you crushed into my awareness before I was even born? When I raged against what you'd done to

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

me, I had only to ask myself what the Baron would've done. And he answered! Understand me, Atreides bitch! He answered *me!*"

Jessica heard the venom and the confirmation of her guess. *Abomination!* Alia had been overwhelmed within, possessed by that *cahueit* of evil, the Baron Vladimir Harkonnen. The Baron himself spoke from her mouth now, uncaring of what was revealed. He wanted her to see his revenge, wanted her to know that he could not be cast out.

I'm supposed to remain here helpless in my knowledge, Jessica thought. With the thought, she launched herself onto the path the *adab* had revealed, shouting: "Fedaykin, follow me!"

It turned out there were six Fedaykin in the room and five of them won through behind her.

"When I am weaker than you, I ask you for freedom because that is according to your principles; when I am stronger than you, I take away your freedom because that is according to my principles."

—Words of an ancient philosopher
(Attributed by Harq al-Ada
to one Louis Veuillot)

Leto leaned out the covert exit from the sietch, saw the bight of the cliff towering above his limited view. Late afternoon sunlight cast long shadows in the cliff's vertical striations. A skeleton butterfly flew in and out of the shadows, its webbed wings a transparent lacery against the light. How delicate it was to exit here, he thought.

Directly ahead of him lay the apricot orchard with children working there to gather the fallen fruit. Beyond the orchard was the qanat. He and Ghanima had given the slip to their guards by losing themselves in a sudden crush of incoming workers. It had been a relatively simple matter to worm their way down an air passage to its connection with the steps to the covert exit. Now, they had only to mingle themselves with the children, work their way to the qanat and drop into the water. There, they could move beside the predator fish which kept sandtrout from encysting the tribe's irrigation water. No Fremen would yet think of a human being risking water passages. And the predator fish were small; they'd not bother humans.

He stepped out of the protective passage then, and the cliff stretched away on both sides of him, turned horizontal just by the act of his own movement.

Ghanima moved closely behind him. Both carried small fruit baskets woven of spice fiber, but each basket carried a sealed package: Fremkit, maula pistol and crysknife . . . and the new robes sent by Farad'n.

Ghanima followed her brother into the orchard, mingled with the working children. Stillsuit masks concealed every face. They were

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

just two more workers here. She felt the action drawing her life away from protective boundaries and known ways, though. What a simple step it was, that step from one danger into another.

In their baskets, those new garments sent by Farad'n conveyed a purpose well understood by both of them. Ghanima had accented this knowledge by sewing their personal motto, "We Share," in Chakobsa above the hawk crest at each breast.

It would be twilight soon and, beyond the qanat which marked off sietch cultivation, there would come a special quality of evening which few places in the universe could match. It would be that softly lighted desert world with its persistent solitude, its saturated sense that each creature in it was alone in a new universe.

"We've been seen," Ghanima whispered, bending to work beside her brother.

"Guards?"

"No—others."

"Good."

"We must move swiftly," she said.

Leto acknowledged this by moving away from the cliff through the orchard. He thought with his father's thoughts: *Everything remains mobile in the desert or perishes.* Far out on the sand he could see The Attendant's outcropping, reminder of the need for mobility. The rocks lay static and rigid in their watchful enigma, fading yearly before the onslaught of wind-driven sand. One day, The Attendant would be sand.

As they neared the qanat, they heard music from a high entrance of the sietch. It was an old-style Fremen group—two-holed flutes, tambourines, tympani, made on spice-plastic drums with skins stretched taut across one end. No one asked what animal on this planet provided that much skin.

Stilgar will remember what I told him about that cleft in The Attendant, Leto thought. *He'll come in the dark when it's too late—and then he'll know.*

Presently, they were at the qanat. They slipped into an open tube, climbed down the inspection ladder to the service ledge. It was dusky, damp and cold in the qanat and they could hear hear the predator fish splashing. Any sandtrout trying to steal this water would find its water-softened inner surface attacked by the fish. Humans must be wary of them, too.

"Careful," Leto said, moving down the slippery ledge. He fastened his memory to times and places his flesh had never known. Ghanima followed.

At the end of the qanat, they stripped to their stillsuits and put on the new robes. They left the old Fremen robes behind as they climbed out another inspection tube, wormed their way over a dune and down the far side. There,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

they sat, shielded from the sietch, strapped on maula pistols and crysknives, slipped the Fremkit packs onto their shoulders. They no longer could hear the music.

Leto arose, struck out through the valley between the dunes.

Ghanima fell into step behind him, moving with practiced unrhythmical quiet over the open sand.

Below the crest of each dune, they bent low and crept across into the hidden lee, there to pause and peer backward seeking pursuit. No hunters had emerged upon the desert by the time they reached the first rocks.

In the shadows of the rocks, they worked their way around The Attendant, climbed to a ledge looking out upon the desert. Colors blinked far out on the bled. The darkening air held the fragility of fine crystal. The landscape which met their gaze was beyond pity, nowhere did it pause—no hesitations in it at all. The gaze stayed upon no single place in its scanning movements across that immensity.

It is the horizon of eternity, Leto thought.

Ghanima crouched beside her brother, thinking: *The attack will come soon.* She listened for the slightest sound, her whole body transformed into a single sense of taut probing.

Leto sat equally alert. He knew now the culmination of all the training which had gone into the lives he shared so intimately. In this wilderness, one developed a firm dependence upon the senses, *all* of the senses. Life became a hoard of stored perceptions, each one linked only to momentary survival.

Presently, Ghanima climbed up the rocks and peered through a notch at the way they had come. The safety of the sietch seemed a lifetime away, a bulk of dumb cliffs rising out of brown-purple distance, dust-blurred edges at the rim where the last of the sunlight cast its silver streaks. Still, no pursuit could be seen in the intervening distance. She returned to Leto's side.

"It'll be a predatory animal," Leto said. "That's my tertiary computation."

"I think you stopped computing too soon," Ghanima said. "It'll be more than one animal. House Corrino has learned not to put all of its hopes into a single bag."

Leto nodded agreement.

His mind felt suddenly heavy with the multitude of lives which his *difference* provided him: all of those lives, his even before birth. He was saturated with living, and wanted to flee from his own consciousness. The inner world was a heavy beast which could devour him.

Restlessly, he arose, climbed to the notch Ghanima had used, peered at the cliffs of the sietch. Back there, beneath the cliff, he

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

could see how the qanat drew a line between life and death. On the oasis edge, he could see camel sage, onion grass, gobi feather grass, wild alfalfa. In the last of the light, he could make out the black movements of birds pick-hopping in the alfalfa. The distant grain tassels were ruffled by a wind which drew shadows that moved right up to the orchard. The motion caught at his awareness, and he saw that the shadows hid within their fluid form a larger change, and that larger change gave ransom to the turning rainbows of a silver-dusted sky.

What will happen out here? he asked himself.

And he knew it would either be death or the play of death, himself the object. Ghanima would be the one to return, believing the reality of a death she had seen or reporting sincerely from a deep hypnotic compulsion that her brother was, indeed, slain.

The unknowns of this place haunted him. He thought how easy it would be to succumb to the demand for prescience, to risk launching his awareness into an unchanging, absolute future. The small vision of his dream was bad enough, though. He knew he dared not risk the larger vision.

Presently, he returned to Ghanima's side.

"No pursuit yet," he said.

"The beasts they send for us will be large," Ghanima said. "We may have time to see them coming."

"Not if they come in the night."

"It'll be dark very soon," she said.

"Yes. It's time we went down into *our* place." He indicated the rocks to their left and below them where wind-sand had eaten a tiny cleft in the basalt. It was small enough to keep out large creatures, but large enough to admit them. Leto felt himself reluctant to go there, but knew it must be done. That was the place he'd pointed out to Stilgar.

"They may really kill us," he said.

"This is the chance we have to take," she said. "We owe it to our father."

"I'm not arguing."

And he thought: *This is the correct path; we do the right thing.* But he knew how dangerous it was to be *right* in this universe. Their survival now demanded vigor and fitness and an understanding of the limitations in every moment. Fremen ways were their best armor, and the Bene Gesserit knowledge was a force held in reserve. They were both thinking now as Atreides-trained battle veterans with no other defenses than a Fremen toughness which was not even hinted at by their childish bodies and their formal attire.

Leto fingered the hilt of the poison-tipped crysknife at his waist. Unconsciously, Ghanima duplicated the gesture.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Shall we go down now?" Ghanima asked. As she spoke, she saw the movement far below them, small movement made less threatening by distance. Her stillness alerted Leto before she could utter a warning.

"Tigers," he said.

"Laza tigers," she corrected him.

"They see us," he said.

"We'd better hurry," she said. "A maula would never stop those creatures. They will've been well trained for this."

"They'll have a human director somewhere around," he said, leading the way at a fast lope down the rocks to the left.

Ghanima agreed, but kept it to herself, saving her strength. There'd be a human around somewhere. Those tigers couldn't be allowed to run free until the proper moment.

The tigers moved fast in the last of the light, leaping from rock to rock. They were eye-minded creatures and soon it would be night, the time of the ear-minded. The bell-call of a nightbird came from The Attendant's rocks to emphasize the change. Creatures of the darkness already were hustling in the shadows of the etched crevasses.

Still, the tigers remained visible to the running twins. The animals flowed with power, a rippling sense of golden sureness in every movement.

Leto felt that he had stumbled into this place to free himself from his soul. He ran with the sure knowledge that he and Ghanima could reach their narrow notch in time, but his gaze kept returning with fascination to the oncoming beasts.

One stumble and we're lost, he thought.

That thought reduced the sureness of his knowledge, and he ran faster.

You Bene Gesserit call your activity of the Panoplia Propheticus a "Science of Religion." Very well. I, a seeker after another kind of *scientist,* find this an appropriate definition. You do, indeed, build your own myths, but so do all societies. You, I must warn, however. You are behaving as so many other misguided scientists have behaved. Your actions reveal that you wish to take something out of (away from) life. It is time you were reminded of that which you so often profess: One cannot have a single thing without its opposite.

—The Preacher at Arrakeen:
A Message to the Sisterhood

In the hour before dawn, Jessica sat immobile on a worn rug of spice cloth. Around her were the bare rocks of an old and poor sietch, one of the original settlements. It lay below the rim of Red Chasm, sheltered from the westerlies of the desert. Al-Fali and his brothers had brought her here; now, they awaited word from Stilgar. The Fedaykin had moved cautiously in the matter of communi-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

cation, however. Stilgar was not to know their location.

The Fedaykin already knew they were under a *proces verbal,* an official report of crimes against the Imperium. Alia was taking the tack that her mother had been suborned by enemies of the realm, although the Sisterhood had not yet been named. The high-handed, tyrannical nature of Alia's power was out in the open, however, and her belief that because she controlled the Priesthood she controlled the Fremen was about to be tested.

Jessica's message to Stilgar had been direct and simple: "My daughter is possessed and must be put to the trial."

Fears destroyed values, though, and it already was known that some Fremen would prefer not to believe this accusation. Their attempts to use the accusation as a passport had brought on two battles during the night, but the ornithopters al-Fali's people had stolen had brought the fugitives to this precarious safety: Red Chasm Sietch. Word was going out to the Fedaykin from here, but fewer than two hundred of them remained on Arrakis. The others held posts throughout the Empire.

Reflecting upon these facts, Jessica wondered if she had come to the place of her death. Some of the Fedaykin believed it, but the death commandos accepted this easily enough. Al-Fali had merely grinned at her when some of his young men voiced their fears.

"When God hath ordained a creature to die in a particular place, He causeth that creature's wants to direct him to that place," the old Naib had said.

The patched curtains at her doorway rustled; al-Fali entered. The old man's narrow, wind-burned face appeared drawn, his eyes feverish. Obviously, he had not rested.

"Someone comes," he said.

"From Stilgar?"

"Perhaps." He lowered his eyes, glanced leftward in the manner of the old Fremen who brought bad news.

"What is it?" Jessica demanded.

"We have word from Tabr that your grandchildren are not there." He spoke without looking at her.

"Alia . . ."

"She has ordered that the twins be given over to her custody, but Sietch Tabr reports that the children are not there. That is all we know."

"Stilgar's sent them into the desert," Jessica said.

"Possibly, but it is known that he was searching for them all through the night. Perhaps it was a trick on his part . . ."

"That's not Stilgar's way," she said, and thought: *Unless the twins put him up to it.* But that didn't feel right, either. She wondered at herself: no sensations of panic to suppress, and her fears for the twins were tempered by what Gha-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

nima had revealed. She peered up at al-Fali, found him studying her with pity in his eyes. She said: "They've gone into the desert by themselves."

"Alone? Those two children!"

She did not bother to explain that *those two children* probably knew more about desert survival than most living Fremen. Her thoughts were fixed, instead, on Leto's odd behavior when he'd insisted that she allow herself to be abducted. She'd put the memory aside, but this moment demanded it. He'd said she would know the moment to obey him.

"The messenger should be in the sietch by now," al-Fali said. "I will bring him to you." He let himself out through the patched curtain.

Jessica stared at the curtain. It was red cloth of spice fiber, but the patches were blue. The story was that this sietch had refused to profit from Muad'Dib's religion, earning the enmity of Alia's Priesthood. The people here reportedly had put their capital into a scheme to raise dogs as large as ponies, dogs bred for intelligence as guardians of children. The dogs had all died. Some said it was poison and the Priests were blamed.

She shook her head to drive out these reflections, recognizing them for what they were: ghafla, the gadfly distraction.

Where have those children gone? To Jacurutu? They had a plan. *They tried to enlighten me to the extent they thought I'd accept.* And when they'd reached the limits as they saw them, Leto had commanded her to obey.

He *commanded* me!

Leto had recognized what Alia was doing; that much was obvious. Both twins had spoken of their aunt's *affliction,* even when defending her. Alia was gambling on the *rightness* of her position in the Regency. Demanding custody of the twins confirmed that. Jessica found a harsh laugh shaking her own breast. The Reverend Mother Gaius Helen Mohiam had been fond of explaining this particular error to her student, Jessica. *"If you focus your awareness only upon your own rightness, then you invite the forces of opposition to overwhelm you. This is a common error. Even I, your teacher, have made it."*

"And even I, your student, have made it," Jessica whispered to herself.

She heard fabrics whispering in the passage beyond the curtain. Two young Fremen entered, part of the entourage they'd picked up during the night. The two were obviously awed at being in the presence of Muad'Dib's mother. Jessica had read them completely: they were nonthinkers, attaching themselves to any fancied power for the identity which this gave them. Without a reflection from her they were empty. Thus, they were dangerous.

"We were sent ahead by al-Fali

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

to prepare you," one of the young Fremen said.

Jessica felt an abrupt clenching tightness in her breast, but her voice remained calm. "Prepare me for what?"

"Stilgar has sent Duncan Idaho as his messenger."

Jessica pulled her aba hood up over her hair, an unconscious gesture. *Duncan?* But he was Alia's tool.

The Fremen who'd spoken took a half step forward. "Idaho says he has come to take you to safety, but al-Fali does not see how this can be."

"It seems passing strange, indeed," Jessica said. "But there are stranger things in our universe. Bring him."

They glanced at each other, but obeyed, leaving together with such a rush that they tore another rent in the worn curtain.

Presently, Idaho stepped through the curtain, followed by the two Fremen and al-Fali bringing up the rear, hand on his crysknife. Idaho appeared composed. He wore the dress casuals of an Atreides houseguard, a uniform which had changed little in more than fourteen centuries. Arrakis had replaced the old gold-handled plasteel blade with a crysknife, but that was minor.

"I'm told you wish to help me," Jessica said.

"As odd as that may seem," he said.

"But didn't Alia send you to abduct me?" she asked.

A slight raising of his black eyebrows was the only mark of surprise. The many-faceted Tleilaxu eyes continued to stare at her with glittering intensity. "Those were her orders," he said.

Al-Fali's knuckles went white on his crysknife, but he did not draw.

"I've spent much of this night reviewing the mistakes I made with my daughter," she said.

"There were many," Idaho agreed, "and I shared in most of them."

She saw now that his jaw muscles were trembling.

"It was easy to listen to the arguments which led us astray," Jessica said. "I wanted to leave this place and you . . . you wanted a girl you saw as a younger version of me."

He accepted this silently.

"Where are my grandchildren?" she demanded, voice going harsh.

He blinked, then: "Stilgar believes they have gone into the desert . . . hiding. Perhaps they saw this crisis coming."

Jessica glanced at al-Fali, who nodded his recognition that she had anticipated this.

"What is Alia doing?" Jessica asked.

"She risks civil war," he said.

"Do you believe it'll come to that?"

Idaho shrugged. "Probably not. These are softer times. There are

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

more people willing to listen to pleasant arguments."

"I agree," she said. "Well and good, what of my grandchildren?"

"Stilgar will find them if . . ."

"Yes, I see." It was really up to Gurney Halleck then. She turned to look at the rock wall on her left. "Alia grasps the power firmly now." She looked back at Idaho. "You understand? One uses power by grasping it lightly. To grasp too strongly is to be taken over by power and, thus, to become its victim."

"As my Duke always told me," Idaho said.

Somehow, Jessica knew he meant the older Leto, not Paul. She asked: "Where am I to be taken in this . . . abduction?"

Idaho peered down at her as though trying to see into the shadows created by the hood.

Al-Fali stepped forward: "My Lady, you are not thinking . . ."

"Is it not my right to decide my own fate?" Jessica asked.

"But this . . ." Al-Fali's head nodded toward Idaho.

"This was my loyal guardian before Alia was born," Jessica said. "Before he died saving my son's life and mine. We Atreides always honor certain obligations."

"Then you will go with me?" Idaho asked.

"Where would you take her?" al-Fali asked.

"Best that you don't know," Jessica said.

Al-Fali scowled, but remained silent. His face betrayed indecision, an understanding of the wisdom in her words, but an unresolved doubt of Idaho's trustworthiness.

"What of the Fedaykin who helped me?" Jessica asked.

"They have Stilgar's countenance if they can get to Tabr," Idaho said.

Jessica faced al-Fali: "I command you to go there, my friend. Stilgar can use Fedaykin in the search for my grandchildren."

The old Naib lowered his gaze. "As Maud'Dib's mother commands."

He's still obeying Paul, she thought.

"We should be out of here quickly," Idaho said. "The search is certain to include this place, and that early."

Jessica rocked forward and arose with that fluid grace which never quite left the Bene Gesserit, even when they felt the pangs of age. And she felt old now after her night of flight. Even as she moved, her mind remained on that peculiar interview with her grandson. What was he really doing? She shook her head, covered the motion by adjusting her hood. It was too easy to fall into the trap of underestimating Leto. Life with ordinary children conditioned one to a false view of the inheritance which the twins enjoyed.

Her attention was caught by Idaho's pose. He stood in the relaxed

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

preparedness for violence, one foot ahead of the other, a stance which she herself had taught him. She shot a quick look at the two young Fremen, at al-Fali. Doubts still assailed the old Fremen Naib and the two young men felt this.

"I trust this man with my life," she said, addressing herself to al-Fali. "And it is not the first time."

"My Lady," al-Fali protested. "It's just . . ." He glared at Idaho. ". . . he's the husband of the Coan-Teen!"

"And he was trained by my Duke and by me," she said.

"But he's a *ghola*!" The words were torn from al-Fali.

"My son's ghola," she said.

It was too much for a former Fedaykin who'd once pledged himself to support Muad'Dib to the death. He sighed, stepped aside and motioned the two young men to open the curtains.

Jessica stepped through, Idaho behind her. She turned, spoke to al-Fali in the doorway. "You are to go to Stilgar. He's to be trusted."

"Yes . . ." But she still heard doubts in the old man's voice.

Idaho touched her arm. "We should go at once. Is there anything you wish to take?"

"Only my common sense," she said.

"Why? Do you fear you're making a mistake?"

She glanced up at him. "You were always the best 'thopter pilot in our service, Duncan."

This did not amuse him. He stepped ahead of her, moving swiftly, retracing the way he'd come. Al-Fali fell into step beside Jessica. "How did you know he came by 'thopter?"

"He wears no stillsuit," Jessica said.

Al-Fali appeared abashed by the obvious perception in this. He would not be silenced, though. "Our messenger brought him here directly from Stilgar's. They could've been seen."

"Were you seen, Duncan?" Jessica asked Idaho's back.

"You know better than that," he said. "We flew lower than the dunetops."

They turned into a side passage which led downward in spiral steps, debouching finally into an open chamber well-lighted by glowglobes high in the brown rock. A single ornithopter sat facing the far wall, crouched there like an insect waiting to spring. The wall would be false rock, then—a door opening onto the desert. As poor as this sietch was, it still maintained the instruments of secrecy and mobility.

Idaho opened the ornithoper's door for her, helped her into the right-hand seat. As she moved past him, she saw perspiration on his forehead where a lock of the black goat hair lay tumbled. Unbidden, Jessica found herself recalling that head spouting blood in a noisy cavern. The steely marbles of the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Tleilaxu eyes brought her out of that recollection. Nothing was as it seemed anymore. She busied herself fastening her seatbelt.

"It's been a long time since you've flown me, Duncan," she said.

"Long and far time," he said. He was already checking the controls.

Al-Fali and the two younger Fremen waited beside the controls to the false rock, prepared to open it.

"Do you think I harbor doubts about you?" Jessica asked, speaking softly to Idaho.

Idaho kept his attention on an engine instrument, ignited the impellers and watched a needle move. A smile touched his mouth, a quick and harsh gesture in his sharp features, gone as quickly as it had come.

"I am still Atreides," Jessica said. "Alia is not."

"Have no fear," he grated. "I still serve the Atreides."

"Alia is no longer Atreides," Jessica repeated.

"You needn't remind me!" he snarled. "Now, shut up and let me fly this thing."

The desperation in his voice was quite unexpected, out of keeping with the Idaho she'd known. Putting down a renewed sense of fear, Jessica asked: "Where are we going, Duncan? You can tell me now."

But he nodded to al-Fali and the false rock opened outward into bright silvery sunlight. The ornithopter leaped outward and up, its wings throbbing with the effort, the jets roaring, and they mounted into an empty sky. Idaho set a southwesterly course toward Sahaya Ridge which could be seen as a dark line upon the sand.

Presently, he said: "Do not think harshly of me, My Lady."

"I haven't thought harshly of you since that night you came into our Arrakeen great hall roaring drunk on spice beer," she said. But his words renewed her doubts and she fell into the relaxed preparedness of complete prana-bindu defense.

"I remember that night well," he said. "I was very young and . . . inexperienced."

"But the best swordmaster in my Duke's retinue."

"Not quite, My Lady. Gurney could best me six times out of ten." He glanced at her. "Where is Gurney?"

"Doing my bidding."

He shook his head.

"Do you know where we're going?" she asked.

"Yes, My Lady."

"Then tell me."

"Very well. I promised that I would create a believable plot against House Atreides. Only one way, really, to do that." He pressed a button on the control wheel and cocoon restraints whipped from Jessica's seat, enfolded her in unbreakable softness, leaving only her head exposed. "I'm taking you to Salusa Secundus. . . . to Farad'n."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

In a rare, uncontrolled spasm, Jessica surged against the restraints, felt them tighten, relaxing only when she relaxed, but not before she felt the deadly shigawire concealed in the protective sheathing.

"The shigawire release has been disconnected," he said, not looking at her. "Oh, yes, and don't try Voice on me. I've come a long way since the days when you could move me that way." He looked at her. "The Tleilaxu armored me against such wiles."

"You're obeying Alia," Jessica said, "and she . . ."

"Not Alia," he said. "We do The Preacher's bidding. He wants you to teach Farad'n as once you taught . . . Paul."

Jessica remained in frozen silence, remembering Leto's words, that she would find an interesting student. Presently, she said: "This Preacher . . . is he my son?"

Idaho's voice seemed to come from a great distance: "I wish I knew."

The universe is just *there*; that's the only way a Fedaykin can view it and remain the master of his senses. The universe neither threatens nor promises. It holds things beyond our sway: the fall of a meteor, the eruption of a spiceblow, growing old and dying. These are the realities of this universe and they must be faced regardless of how you *feel* about them. You cannot fend off such realities with words. They will come at you in their own wordless way and then, then you will understand what is meant by "life and death." Understanding this, you will be filled with joy.

—Muad'Dib to his Fedaykin

"And those are the things we have set in motion," Wensicia said. "These things were done for *you*."

Farad'n remained motionless, seated across from his mother in her morning room. The sun's golden light came from behind him, casting his shadow on the white-carpeted floor. Light reflected from the wall behind his mother drew a nimbus around her hair. She wore her usual white robe trimmed in gold—reminders of royal days. Her heart-shaped face appeared composed, but he knew she was watching his every reaction. His stomach felt empty, although he'd just come from breakfast.

"You don't approve?" Wensicia asked.

"What is there to disapprove?" he asked.

"Well . . . that we kept this from you until now?"

"Oh, that." He studied his mother, tried to reflect upon his complex position in this matter. He could only think on a thing he had noticed recently, that Tyekanik no longer called her "My Princess." What did he call her? Queen Mother?

Why do I feel a sense of loss? he

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

wondered. *What am I losing?* The answer was obvious: he was losing his carefree days, time for those pursuits of the mind which so attracted him. If this plot unfolded by his mother came off, those things would be gone forever. New responsibilities would demand his attention. He found that he resented this deeply. How dared they take such liberties with his time? And without even consulting him!

"Out with it," his mother said. "Something's wrong."

"What if this plan fails?" he asked, saying the first thing that came into his mind.

"How can it fail?"

"I don't know . . . any plan can fail. How're you using Idaho in all of this?"

"Idaho? What's this interest in . . . oh, yes—that mystic fellow Tyek brought here without consulting me. That was wrong of him. The mystic spoke of Idaho, didn't he?"

It was a clumsy lie on her part, and Farad'n found himself staring at his mother in wonderment. She'd known about The Preacher all along!

"It's just that I've never seen a ghola," he said.

She accepted this, said: "We're saving Idaho for something important."

Farad'n chewed his upper lip.

Wensicia found herself reminded of his dead father. Dalak had been like that at times, very inward and complex, difficult to read. Dalak, she reminded herself, had been related to Count Hasimir Fenring, and there'd been something of the dandy and the fanatic in both of them. Would Farad'n follow in that path? She began to regret having Tyek lead the lad into the Arrakeen religion. Who knew where that might take him?

"What does Tyek call you now?" Farad'n asked.

"What's that?" She was startled by this shift.

"I've noticed that he doesn't call you 'My Princess' anymore."

How observant he is, she thought, wondering why this filled her with disquiet. *Does he think I've taken Tyek as a lover? Nonsense, it wouldn't matter one way or the other. Then why this question?*

"He calls me 'My Lady'," she said.

"Why?"

"Because that's the custom in all of the Great Houses."

Including the Atreides, he thought.

"It's less suggestive if overheard," she explained. "Some will think we've given up our legitimate aspirations."

"Who would be that stupid?" he asked.

She pursed her lips, decided to let it pass. A small thing, but great campaigns were made up of many small things.

"The Lady Jessica shouldn't have left Caladan," he said.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

She shook her head sharply. What was this? His mind was darting around like a crazy thing! She said: "What do you mean?"

"She shouldn't have gone back to Arrakis." he said. "That's bad strategy. Makes one wonder. Would've been better to have her grandchildren visit her on Caladan."

He's right, she thought, dismayed that this had never occurred to her. Tyek would have to explore this immediately. Again, she shook her head. *No!* What was Farad'n doing? He must know that the Priesthood would never risk both twins in space.

She said this.

"Is it the Priesthood or the Lady Alia?" he asked, noting that her thoughts had gone where he had wanted. He found exhilaration in this new importance, the mind-games available in political plotting. It had been a long time since his mother's mind had interested him. She was too easily maneuvered.

"You think Alia wants power for herself?" Wensicia asked.

He looked away from her. Of course Alia wanted the power for herself! All of the reports from that accursed planet agreed on this. His thoughts took off on a new course.

"I've been reading about their Planetologist," he said. "There has to be a clue to the sandworms and the haploids in there somewhere, if only . . ."

"Leave that to others now!" she said, beginning to lose patience with him. "Is this all you have to say about the things we've done for you?"

"You didn't do them for me," he said. "You did them for House Corrino, and you're House Corrino right now. I've not been invested."

"You have responsibilities!" she said. "What about all of the people who depend upon you?"

As if her words put the burden upon him, he felt the weight of all those hopes and dreams which followed House Corrino.

"Yes," he said, "I understand about them, but I find some of the things done in my *name* distasteful."

"Dis . . . How can you say such a thing? We do what any Great House would do in promoting its own fortunes!"

"Do you? I think you've been a bit gross. No! Don't interrupt me. If I'm to be an Emperor, then you'd better learn how to listen to me. Do you think I cannot read between the lines? How were those tigers trained?"

She remained speechless at this cutting demonstration of his perceptive abilities.

"I see," he said. "Well, I'll keep Tyek because I know you led him into this. He's a good officer under most circumstances, but he'll fight for his own principles only in a friendly arena."

"His . . . principles?"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"The difference between a good officer and a poor one is strength of character and about five heartbeats," he said. "He has to stick by his principles wherever they're challenged."

"The tigers were necessary," she said.

"I'll believe that if they succeed," he said. "But I will not condone what had to be done in training them. Don't protest. It's obvious. They were *conditioned.* You said it yourself."

"What're you going to do?" she asked.

"I'm going to wait and see," he said. "Perhaps I'll become Emperor."

She put a hand to her breast, sighed. For a few moments there, he'd terrified her. She'd almost believed he would denounce her. Principles! But he was committed now; she could see that.

Farad'n got up, went to the door and rang for his mother's attendants. He looked back: "We are through, aren't we?"

"Yes." She raised a hand as he started to leave. "Where are you going?"

"To the library. I've become fascinated lately by Corrino history." He left her then, sensing how he carried his new commitment with him.

Damn her!

But he knew he was committed. And he recognized that there was a deep emotional difference between history as recorded on shigawire and read at leisure, a deep difference between that kind of history and the history which one lived. This new living history which he felt gathering around him possessed a sense of plunging into an irreversible future. Farad'n could feel himself driven now by the desires of all those whose fortunes rode with him. He found it strange that he could not pin down his own desires in this.

It is said of Muad'Dib that once when he saw a weed trying to grow between two rocks, he moved one of the rocks. Later, when the weed was seen to be flourishing, he covered it with the remaining rock. "That was its fate," he explained.

—The Commentaries

"Now!" Ghanima shouted.

Leto, two steps ahead of her in reaching the narrow cut in the rocks, did not hesitate. He dove into the slit, crawled forward until darkness enfolded him. He heard Ghanima drop behind him, a sudden stillness, and her voice, not hurrying or fearful:

"I'm stuck."

He stood up, knowing this would bring his head within reach of questing claws, reversed himself in the narrow passage, crept back until he felt Ghanima's outstretched hand.

"It's my robe," she said. "It's caught."

He heard rocks falling directly

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

below them, pulled on her hand but felt only a small gain.

There was panting below them, a growl.

Leto tensed himself, wedging his hips against the rock, heaved on Ghanima's arm. Cloth ripped and he felt her jerk toward him. She hissed and he knew she felt pain, but he pulled once more, harder. She came farther into the hole, then all the way, dropping beside him. They were too close to the end of the cut, though. He turned, dropped to all fours, scrambled deeper. Ghanima pulled herself along behind him. There was a panting intensity to her movements which told him she'd been hurt. He came to the end of the opening, rolled over and peered upward out the narrow gap of their sanctuary. The opening was about two meters above him, filled with stars. Something large obscured the stars.

A rumbling growl filled the air around the twins. It was deep, menacing, an ancient sound: hunter speaking to its prey.

"How badly are you hurt?" Leto asked, keeping his voice even.

She matched him, tone for tone: "One of them clawed me. Breached my stillsuit along the left leg. I'm bleeding."

"How bad?"

"Vein. I can stop it."

"Use pressure," he said. "Don't move. I'll take care of our friends."

"Careful," she said. "They're bigger than I expected."

Leto unsheathed his crysknife, reached up with it. He knew the tiger would be questing downward, claws raking the narrow passage where its body could not go.

Slowly, slowly, he extended the knife. Abruptly, something struck the tip of the blade. He felt the blow all along his arm, almost lost his grip on the knife. Blood gushed along his hand, spattered his face, and there came an immediate scream which deafened him. The stars became visible. Something thrashed and flung itself down the rocks toward the sand in a violent caterwauling.

Once more, the stars were obscured and he heard the hunter's growl. The second tiger had moved into place, unmindful of its companion's fate.

"They're persistent," Leto said.

"You got one for sure." Ghanima said. "Listen!"

The screams and thrashing convulsions below them were growing fainter. The second tiger remained, though, a curtain against the stars.

Leto sheathed his blade, touched Ghanima's arm. "Give me your knife. I want a fresh tip to make sure of this one."

"Do you think they'll have a third one in reserve?" she asked.

"Not likely. Laza tigers hunt in pairs."

"Just as we do," she said.

"As we do," he agreed. He felt the handle of her crysknife slip into his palm, gripped it tightly.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Once more, he began that careful upward questing. The blade encountered only empty air, even when he reached into a level dangerous to his body. He withdrew, pondering this.

"Can't you find it?"

"It's not behaving the way the other one did."

"It's still there. Smell it?"

He swallowed in a dry throat. A fetid breath, moist with the musky smell of the cat assaulted his nostrils. The stars were still blocked from view. Nothing could be heard of the first cat; the crysknife's poison had completed its work.

"I think I'm going to have to stand up," he said.

"No!"

"It has to be teased into reach of the knife."

"Yes, but we agreed that if one of us could avoid injury . . ."

"And you're wounded, so you're the one going back," he said.

"But if you're badly injured, I won't be able to leave you," she said.

"Do you have a better idea?"

"Give me back my knife."

"But your leg!"

"I can stand on the good one."

"That thing could take your head off with one sweep. Maybe the maula . . ."

"If there's anyone out there to hear, they'll know we came prepared for . . ."

"I don't like your taking this risk!" he said.

"Whoever's out there mustn't learn we have maulas—not yet." She touched his arm. "I'll be careful, keep my head down."

As he remained silent, she said: "You know I'm the one who has to do this. Give me back my knife."

Reluctantly, he quested with his free hand, found her hand and returned the knife. It was the logical thing to do, but logic warred with every emotion in him.

He felt Ghanima pull away, heard the sandy rasping of her robe against the rock. She gasped, and he knew she must be standing. *Be very careful!* he thought. And he almost pulled her back to insist they use a maula pistol. But that could warn anyone out there that they had such weapons. Worse, it could drive the tiger out of reach and they'd be trapped in here with a wounded tiger waiting for them in some unknown place out on those rocks.

Ghanima took a deep breath, braced her back against one wall of the cleft. *I must be quick,* she thought. She reached upward with the knife point. Her left leg throbbed where the claws had raked it. She felt the crusting of blood against her skin there and the warmth of a new flow. *Very quick!* She sank her senses into the calm preparation for crisis which the Bene Gesserit Way provided, put pain and all other distractions out of her awareness. The cat must reach down! Slowly, she passed the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

blade along the opening. Where was the damned animal? Once more, she raked the air. Nothing. The tiger would have to be lured into attack.

Carefully, she probed with her sense of smell. Warm breath came from her left. She poised herself, drew in a deep breath, screamed: "Taqwa!" It was the old Fremen battlecry, its meaning found in the most ancient legends: *"The price of freedom!"* With the cry, she tipped the blade and stabbed along the cleft's dark opening. Claws found her elbow before the knife touched flesh, and she had time only to tip her wrist toward the pain before agony raked her arm from elbow to wrist. Through the pain, she felt the poison tip sink into the tiger. The blade was wrenched from her numb fingers. But again, the narrow gap of the cleft lay open to the stars and the wailing voice of a dying cat filled the night. They followed it by its death throes, a thrashing passage down the rocks. Presently, the death silence came.

"It got my arm," Ghanima said, trying to bind a loose fold of her robe around the wound.

"Badly?"

"I think so. I can't feel my hand."

"Let me get a light and . . ."

"Not until we get under cover!"

"I'll hurry."

She heard him twisting to reach his Fremkit, felt the dark slickness of a nightshield as it was slipped over her head. He didn't bother to make it moisture-tight.

"My knife's on this side," she said. "I can feel the handle with my knee."

"Leave it for now."

He ignited a single small globe. The brilliance of it made her blink. Leto put the globe on the sandy floor at one side, gasped as he saw her arm. One claw had opened a long, gaping wound which twisted from the elbow along the back of her arm almost to the wrist. The wound described the way she had rotated her arm to present the knife tip to the tiger's paw.

Ghanima glanced once at the wound, closed her eyes and began reciting the litany against fear.

Leto found himself sharing her need, but put aside the clamor of his own emotions while he set about binding up the wound. It had to be done carefuly to stop the flow of blood while retaining the appearance of a clumsy job which Ghanima might have done by herself. He made her tie off the knot with her free hand, holding one end of the bandage in her teeth.

"Now, let's look at the leg," he said.

She twisted around to present the other wound. It was not as bad: two shallow claw cuts along the calf. They had bled freely into the stillsuit, however. He cleaned it up as best he could, bound the wound beneath the stillsuit. He sealed the suit over the bandage.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"I got sand in it," he said. "Have it treated as soon as you get back."

"Sand in our wounds," she said. "That's an old story for Fremen."

He managed a smile, sat back.

Ghanima took a deep breath. "We've pulled it off."

"Not yet."

She swallowed, fighting to recover from the aftermath of shock. Her face appeared pale in the light of the glowglobe. And she thought: *Yes, we must move fast now. Whoever controlled those tigers could be out there right now.*

Leto, staring at his sister, felt a sudden wrenching sense of loss. It was a deep pain which shot through his breast. He and Ghanima must separate now. For all of those years since birth they had been as one person. But their plan demanded now that they undergo a metamorphosis, going their separate ways into uniqueness where the sharing of daily experiences would never again unite them as they once had been united.

He retreated into the necessarily mundane. "Here's my Fremkit. I took the bandages from it. Someone may look."

"Yes." She exchanged kits with him.

"Someone out there has a transmitter for those cats," he said. "Most likely he'll be waiting near the qanat to make certain of us."

She touched her maula pistol where it sat atop the Fremkit, picked it up and thrust it into the sash beneath her robe. "My robe's torn."

"Yes."

"Searchers may get here soon," he said. "They may have a traitor among them. Best you slip back alone. Get Harah to hide you."

"I'll . . . I'll start the search for the traitor as soon as I get back," she said. She peered into her brother's face, sharing his painful knowledge that from this point on they would accumulate a store of differences. Never again would they be as one, sharing knowledge which no one else could understand.

"I'll go to Jacurutu," he said.

"Fondak," she said.

He nodded his agreement. Jacurutu/Fondak—they had to be the same place. It was the only way the legendary place could have been hidden. Smugglers had done it, of course. How easy for them to convert one label into another, acting under the cover of the unspoken convention by which they were allowed to exist. The ruling family of a planet must always have a back door for escape in extremis. And a small share in smuggling profits kept the channels open. In Fondak/Jacurutu, the smugglers had taken over a completely operative sietch untroubled by a resident population. And they had hidden Jacurutu right out in the open, secure in the taboo which kept Fremen from it.

"No Fremen will think to search

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

for me in such a place," he said. "They'll inquire among the smugglers, of course, but . . ."

"We'll do as we agreed," she said. "It's just . . ."

"I know." Hearing his own voice, Leto realized they were drawing out these last moments of sameness. A wry grin touched his mouth, adding years to his appearance. Ghanima realized she was seeing him through a veil of time, looking at an older Leto. Tears burned her eyes.

"You needn't give water to the dead just yet," he said, brushing a finger against the dampness on her cheeks. "I'll go out far enough that no one will hear, and I'll call a worm." He indicated the collapsed maker-hooks strapped to the outside of his Fremkit. "I'll be at Jacurutu before dawn two days from now."

"Ride swiftly, my only friend," she whispered.

"I'll come back to you, my only friend," he said. "Remember to be careful at the qanat."

"Choose a good worm," she said, giving him the Fremen words of parting. Her left hand extinguished the glowglobe, and the nightseal rustled as she pulled it aside, folded it and tucked it into her kit. She felt him go, hearing only the softest of sounds quickly fading into silence as he crept down the rocks into the desert.

Ghanima steeled herself then for what she had to do. Leto must be dead to her. She had to make herself believe it. There could be no Jacurutu in her mind, no brother out there seeking a place lost in Fremen mythology. From this point onward, she could not think of Leto as alive. She must condition herself to react out of a total belief that her brother was dead, killed here by Laza tigers. Not many humans could fool a Truthsayer, but she knew that she could do it . . . might have to do it. The multi-lives she and Leto shared had taught them the way: a hypnotic process old in Sheba's time, although she might be the only human alive who could recall Sheba as a reality. The deep compulsions had been designed with care and, for a long time after Leto had gone, Ghanima reworked her self-awareness, building the lonely sister, the surviving twin, until it was a believable totality. As she did this, she found the inner world becoming silent, blanked away from intrusion into her consciousness. It was a side effect she had not expected.

If only Leto could have lived to learn this, she thought, and she did not find the thought a paradox. Standing, she peered down at the desert where the tiger had taken Leto. There was a sound growing in the sand out there, a familiar sound to Fremen: the passage of a worm. Rare as they had become in these parts, a worm still came. Perhaps the first cat's death throes . . .

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Yes, Leto had killed one cat before the other one got him. It was oddly symbolic that a worm should come. So deep was her compulsion, that she saw three dark spots far down on the sand: the two tigers and Leto. Then the worm came and there was only sand with its surface broken into new waves by the passage of Shai Hulud. It had not been a very large worm . . . but large enough. And her compulsion did not permit her to see a small figure riding on the ringed back.

Fighting her grief, Ghanima sealed her Fremkit, crept cautiously from her hiding place. Hand on her maula pistol, she scanned the area. No sign of a human with a transmitter. She worked her way up the rocks and across to the far side, creeping through moonshadows, waiting and waiting to be sure no assassin lurked in her path.

Across the open space, she could see torches at Tabr, the wavering activity of a search. A dark patch moved across the sand toward The Attendant. She chose her path to run far to the north of the approaching party, went down to the sand and moved into the dune shadows. Careful to make her steps fall in a broken rhythm which would not attract a worm, she set out into the lonely distance which separated Tabr from the place where Leto had died. She would have to be careful at the qanat, she knew. Nothing must prevent her from telling how her brother had perished saving her from the tigers.

Governments, if they endure, always tend increasingly toward aristocratic forms. No government in history has been known to evade this pattern. And as the aristocracy develops, government tends more and more to act exclusively in the interests of the ruling class—whether that class be hereditary royalty, oligarchs of financial empires or entrenched bureaucracy.

—Politics as Repeat Phenomenon: Bene Gesserit Training Manual

"Why does he make us this offer?" Farad'n asked. "That's most essential."

He and the Bashar Tyekanik stood in the lounge of Farad'n's private quarters. Wensicia sat at one side on a low blue divan, almost as audience rather than participant. She knew her position and resented it, but Farad'n had undergone a terrifying change since that morning when she'd revealed their plots to him.

It was late afternoon at Corrino Castle and the low light accented the quiet comfort of this lounge—a room lined with actual books reproduced in plastino, with shelves revealing a horde of player spools, data blocks, shigawire reels, mnemonic amplifiers. There were signs all around that this room was much used—worn places on the books, bright metal on the amplifiers, frayed corners on the data blocks. There was only the one divan, but

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

many chairs—all of them sensiform floaters designed for unobtrusive comfort.

Farad'n stood with his back to a window. He wore a plain Sardaukar uniform in gray and black with only the golden lion-claw symbols on the wings of his collar as decoration. He had chosen to receive the Bashar and his mother in this room, hoping to create an atmosphere of more relaxed communication than could be achieved in a more formal setting. But Tyekanik's constant "My Lord this" and "My Lady that" kept them at a distance.

"My Lord, I don't think he'd make this offer were he unable to deliver," Tyekanik said.

"Of course not!" Wensicia intruded.

Farad'n merely glanced at his mother to silence her, asked: "We've put no pressure on Idaho, made no attempt to seek delivery on The Preacher's promise?"

"None," Tyekanik said.

"Then why does Duncan Idaho, noted all of his life for his fanatic loyalty to the Atreides, offer now to deliver the Lady Jessica into our hands?"

"These rumors of trouble on Arrakis . . ." Wensicia ventured.

"Unconfirmed," Farad'n said. "Is it possible that The Preacher has precipitated this?"

"Possible," Tyekanik said, "but I fail to see a motive."

"He speaks of seeking asylum for her," Farad'n said. "That might follow if those rumors were . . ."

"Precisely," his mother said.

"Or it could be a ruse of some sort," Tyekanik said.

"We can make several assumptions and explore them," Farad'n said. "What if Idaho has fallen into disfavor with his Lady Alia?"

"That might explain matters," Wensicia said, "but he . . ."

"No word yet from the smugglers?" Farad'n interrupted. "Why can't we . . ."

"Transmission is always slow in this season," Tyekanik said, "and the needs of security . . ."

"Yes, of course, but still . . ." Farad'n shook his head. "I don't like our assumption."

"Don't be too quick to abandon it," Wensicia said. "All of those stories about Alia and that Priest, whatever his name is . . ."

"Javid," Farad'n said. "But the man's obviously . . ."

"He's been a very valuable source of information for us," Wensicia said.

"I was about to say that he's obviously a double agent," Farad'n said. "How could he indict himself in this? He's not to be trusted. There are too many signs . . ."

"I fail to see them," she said.

He was suddenly angry with her denseness. "Take my word for it, Mother! The signs are there; I'll explain later."

"I'm afraid I must agree," Tyekanik said.

Wensicia lapsed into hurt silence.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

How dared they push her out of Council like this? As though she were some light-headed fancy woman with no . . .

"We mustn't forget that Idaho was once a ghola," Farad'n said. "The Tleilaxu . . ." He glanced sidelong at Tyekanik.

"That avenue will be explored," Tyekanik said. He found himself admiring the way Farad'n's mind worked: alert, questing, sharp. Yes, the Tleilaxu, in restoring life to Idaho, might've implanted a powerful barb in him for their own use.

"But I fail to apprehend a Tleilaxu motive," Farad'n said.

"An investment in our fortunes," Tyekanik said. "A small insurance for future favors?"

"Large investment, I'd call it," Farad'n said.

"Dangerous," Wensicia said.

Farad'n had to agree with her. The Lady Jessica's capabilities were notorious in the Empire. After all, she'd been the one who'd trained Muad'Dib.

"If it became known that we hold her–" Farad'n said.

"Yes, that'd be a two-edged sword," Tyekanik said. "But it need not be known."

"Let us assume," Farad'n said, "that we accept this offer. What's her value? Can we exchange her for something of greater importance?"

"Not openly," Wensicia said.

"Of course not!" He peered expectantly at Tyekanik.

"That remains to be seen," Tyekanik said.

Farad'n nodded. "Yes. I think if we accept, we should consider the Lady Jessica as money banked for indeterminate use. After all, wealth doesn't necessarily have to be spent on any particular thing. It's just . . . potentially useful."

"She'd be a very dangerous captive," Tyekanik said.

"There is that to consider, indeed," Farad'n said. "I'm told that her Bene Gesserit Ways permit her to manipulate a person just by the subtle employment of her voice."

"Or her body," Wensicia said. "Irulan once divulged to me some of the things she'd learned. She was showing off at the time, and I saw no demonstrations, still the evidence is pretty conclusive that Bene Gesserits have their ways of achieving their ends."

"Were you suggesting," Farad'n asked, "that she might seduce me?"

Wensicia merely shrugged.

"I'd say she's a little old for that, wouldn't you?" Farad'n asked.

"With a Bene Gesserit, nothing's certain," Tyekanik said.

Farad'n experienced a shiver of excitement tinged with fear. Playing this game to restore House Corrino's high seat of power both attracted and repelled him. How attractive it remained, the urge to retire from this game into his preferred pursuits–historical research and learning the manifest duties for ruling here on Salusa Secundas.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The restoration of his Sardaukar forces was a task in itself . . . and for that job, Tyek was still a good tool. One planet was, after all, an enormous responsibility. But the Empire was an even greater responsibility, far more attractive as an instrument of power. And the more he read about Muad'Dib/Paul Atreides, the more fascinated Farad'n became with the uses of power. As titular head of House Corrino, heir of Shaddam IV, what a great achievement it would be to restore his line to the Lion Throne. He wanted that! He wanted it. Farad'n had found that, by repeating this enticing litany to himself several times, he could overcome momentary doubts.

Tyekanik was speaking: ". . . and of course, the Bene Gesserit teach that peace encourages aggression, thus igniting war. The paradox of . . ."

"How did we get on this subject?" Farad'n asked, bringing his attention back from the arena of speculation.

"Why," Wensicia said sweetly, having noted the wool-gathering expression on her son's face, "I merely asked if Tyek was familiar with the driving philosophy behind the Sisterhood."

"Philosophy should be approached with irreverence," Farad'n said, turning to face Tyekanik. "In regard to Idaho's offer, I think we should inquire further. When we think we know something, that's precisely the moment when we should look deeper into the thing."

"It will be done," Tyekanik said. He liked this cautious streak in Farad'n, but hoped it did not extend to those military decisions which required speed and precision.

With seeming irrelevancy, Farad'n asked: "Do you know what I find most interesting about the history of Arrakis? It was the custom in primitive times for Fremen to kill on sight anyone not clad in a stillsuit with its easily visible and characteristic hood."

"What is your fascination with the stillsuit?" Tyekanik asked.

"So you've noticed, eh?"

"How could we not notice?" Wensicia asked.

Farad'n sent an irritated glance at his mother. Why did she interrupt like that? He returned his attention to Tyekanik.

"The stillsuit is the key to that planet's character, Tyek. It's the hallmark of Dune. People tend to focus on the physical characteristics: the stillsuit conserves body moisture, recycles it and makes it possible to exist on such a planet. You know, the Fremen custom was to have one stillsuit for each member of a family, *except* for food gatherers. They had spares. But please note, both of you . . ." He moved to include his mother in this. ". . . how garments which appear to be stillsuits, but really aren't, have become high fashion

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

throughout the Empire. It's such a dominant characteristic for humans to copy the conqueror!"

"Do you really find such information valuable?" Tyekanik asked, his tone puzzled.

"Tyek, Tyek—without such information, one cannot govern. I said the stillsuit was the key to their character and it is! It's a conservative thing. The mistakes they make will be conservative mistakes."

Tyekanik glanced at Wensicia, who was staring at her son with a worried frown. This characteristic of Farad'n's both attracted and worried the Bashar. It was so unlike old Shaddam. Now, there had been an essential Sardaukar: a military killer with few inhibitions. But Shaddam had fallen to the Atreides under that damnable Paul. Indeed, what he read of Paul Atreides, revealed just such characteristics as Farad'n now displayed. It was possible that Farad'n might hesitate less than the Atreides over brutal necessities, but that was his Sardaukar training.

"Many have governed without using this kind of information," Tyekanik said.

Farad'n merely stared at him for a moment, then: "Governed and failed."

Tyekanik's mouth drew into a stiff line at this obvious allusion to Shaddam's failure. That had been a Sardaukar failure, too, and no Sardaukar could recall it easily.

Having made his point, Farad'n said: "You see, Tyek, the influence of a planet upon the mass unconscious of its inhabitants has never been fully appreciated. To defeat the Atreides, we must understand not only Caladan but Arrakis: one planet soft and the other a training ground for hard decisions. That was a unique event, that marriage of Atreides and Fremen. We must know how it worked or we won't be able to match it, let alone defeat it."

"What does this have to do with Idaho's offer?" Wensicia demanded.

Farad'n glanced pityingly down at his mother. "We begin their defeat by the kinds of stress we introduce into their society. That's a very powerful tool: stress. And the lack of it is important, too. Did you not mark how the Atreides helped things grow soft and easy here?"

Tyekanik allowed himself a curt nod of agreement. That was a good point. The Sardaukar could not be permitted to grow too soft. This offer from Idaho still bothered him, though. He said: "Perhaps it'd be best to reject the offer."

"Not yet," Wensicia said. "We've a spectrum of choices open to us. Our task is to identify as much of the spectrum as we can. My son is right: we need more information."

Farad'n stared at her, measuring her intent as well as the surface meaning of her words. "But will we know when we've passed the point

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

of no alternate choice?" he asked.

A sour chuckle came from Tyekanik. "If you ask me, we're long past the point of no return."

Farad'n tipped his head back to laugh aloud. "But we still have alternate choices, Tyek! When we come to the end of our rope, that's an important place to recognize!"

In this age when the means of human transport include devices which can span the deeps of space in Transtime, and other devices which can carry men swiftly over virtually impassable planetary surfaces, it seems odd to think of attempting a long journey afoot. Yet, this remains a primary means of travel on Arrakis, a fact attributed partly to preference and partly to the brutal treatment which this planet reserves for anything mechanical. In the strictures of Arrakis, human flesh remains the most durable and reliable resource for the Hajj. Perhaps it is the implicit awareness of this fact which makes Arrakis the ultimate mirror of the soul.

—Handbook of the Hajj

Slowly, cautiously, Ghanima made her way back to Tabr, holding herself to the deepest shadows of the dunes, crouching in stillness as the search party passed to the south of her. Terrible awareness gripped her: the worm which had taken the tigers and Leto's body, the dangers ahead. He was gone; her twin was gone. She put aside all tears and nurtured her rage. In this, she was pure Fremen. And she knew this, reveling in it.

She understood what was said about Fremen. They were not supposed to have a conscience, having lost it in a burning for revenge against those who had driven them from planet to planet in the long wandering. That was foolishness, of course. Only the rawest primitive had no conscience. Fremen possessed a highly evolved conscience which centered on their own welfare as a people. It was only to outsiders that they seemed brutish . . . just as outsiders appeared brutish to Fremen. Every Fremen knew very well that he could do a brutal thing and feel no guilt. Fremen did not feel guilt for the same things that aroused such feelings in others. Their rituals provided a freedom from guilts which might otherwise have destroyed them. They knew in their deepest awareness that any transgression could be ascribed, at least in part, to well-recognized extenuating circumstances: "the failure of authority," or "a *natural* bad tendency" shared by all humans, or to "bad luck," which any sentient creature should be able to identify as a collision between mortal flesh and the outer chaos of the universe.

In this context, Ghanima felt herself to be the pure Fremen, a carefully prepared extension of tribal brutality. She needed only a target and that, obviously, was

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

House Corrino. She longed to see Farad'n's blood spilled on the ground at her feet.

No enemy awaited her at the qanat. Even the search parties had gone elsewhere. She crossed the water on an earth bridge, crept through tall grass toward the covert exit of the sietch. Abruptly, light flared ahead of her and Ghanima threw herself flat on the ground. She peered out through stalks of giant alfalfa. A woman had entered the covert passage from the outside, and someone had remembered to prepare that passage in the way any sietch entrance should be prepared. In troubled times, one greeted anyone entering the sietch with bright light, temporarily blinding the newcomer and giving guards time to decide. But such a greeting was never meant to be broadcast out over the desert. The light visible here meant the outer seals had been left aside.

Ghanima felt a tug of bitterness at this betrayal of sietch security: this flowing light. The ways of the lace-shirt Fremen were to be found everywhere!

The light continued to throw its fan over the ground at the cliff base. A young girl ran out of the orchard's darkness into the light, something fearful about her movements. Ghanima could see the bright circle of a glowglobe within the passage, a halo of insects around it. The light illuminated two dark shadows in the passage: a man and the girl. They were holding hands as they stared into each other's eyes.

Ghanima sensed something wrong about the man and woman there. They were not just two lovers stealing a moment from the search. The light was suspended above and beyond them in the passage. The two talked against a glowing arch, throwing their shadows into the outer night where anyone could be a watcher of their movements. Now and again, the man would free a hand. The hand would come gesturing into the light, a sharp and furtive movement which, once completed, returned to the shadows.

Lonely sounds of night creatures filled the darkness around Ghanima, but she screened out such distractions.

What was it about those two?

The man's motions were so static, so careful.

He turned. Reflection from the woman's robe illuminated him, exposing a raw red face with a large, blotchy nose. Ghanima drew in a deep, silent breath of recognition. *Palimbasha!* He was a grandson of a Naib whose sons had fallen in Atreides service. The face and another thing revealed by the open swinging of his robe as he turned, drew for Ghanima a complete picture. He wore a belt beneath the robe and attached to the belt was a box which glistened with keys and dials. It was an instrument of the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Tleilaxu or the Ixians for certain. And it had to be the transmitter which had released the tigers. Palimbasha. This meant that another Naibate family had gone over to House Corrino.

Who was the woman, then? No matter. She was someone being used by Palimbasha.

Unbidden, a Bene Gesserit thought came into Ghanima's mind: *Each planet has its own period, and each life likewise.*

She recalled Palimbasha well, watching him there with that woman, seeing the transmitter, the furtive movements. Palimbasha taught in the sietch school. Mathematics. The man was a mathematical boor. He had attempted to explain Muad'Dib through mathematics until censured by the Priesthood. He was a mind-slaver and his enslaving process could be understood with extreme simplicity: he transferred technical knowledge without a transfer of values.

I should've suspected him earlier, she thought. *The signs were all there.*

Then, with an acid tightening of her stomach: *He killed my brother!*

She forced herself to calmness. Palimbasha would kill her, too, if she tried to pass him there in the covert passage. Now, she understood the reason for this un-Fremen display of light, this betrayal of the hidden entrance. They were watching by that light to see if either of their victims had escaped. It must be a terrible time of waiting for them, not knowing. And now that Ghanima had seen the transmitter, she could explain certain of the hand motions. Palimbasha was depressing one of the transmitter's keys frequently, an angry gesture.

The presence of this pair said much to Ghanima. Likely every way into the sietch carried a similar watcher in its depths.

She scratched her nose where dust tickled it. Her wounded leg still throbbed and the knife arm ached when it didn't burn. The fingers remained numb. Should it come to a knife, she would have to use the blade in her left hand.

Ghanima thought of using the maula pistol, but its characteristic sound would be sure to attract unwanted attention. Some other way would have to be found.

Palimbasha turned away from the entrance once more. He was a dark object against the light. The woman turned her attention to the outer night while she talked. There was a trained alertness about the woman, a sense that she knew how to look into the shadows, using the edges of her eyes. She was more than just a useful tool, then. She was part of the deeper conspiracy.

Ghanima recalled now that Palimbasha aspired to be a Kaymakam, a political governor under the Regency. He would be part of a larger plan, that was clear. There would be many others with him. Even here in Tabr. Ghanima exam-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ined the edges of the problem thus exposed, probed into it. If she could take one of these guardians alive, many others would be forfeit.

The *whiffle* of a small animal drinking at the qanat behind her caught Ghanima's awareness. Natural sounds and natural things. Her memory searched through a strange silent barrier in her mind, found a priestess of Jowf captured in Assyria by Sennacherib. The memories of that priestess told Ghanima what would have to be done here. Palimbasha and his woman there were mere children, wayward and dangerous. They knew nothing of Jowf, knew not even the name of the planet where Sennacherib and the priestess had faded into dust. The thing which was about to happen to the pair of conspirators, if it were explained to them, could only be explained in terms of beginning here.

And ending here.

Rolling onto her side, Ghanima freed her Fremkit, slipped the sandsnorkel from its bindings. She uncapped the sandsnorkel, removed the long filter within it. Now, she had an open tube. She selected a needle from the repair pack, unsheathed her crysknife and inserted the needle into the poison hollow at the knife's tip, that place where once a sandworm's nerve had fitted. Her injured arm made the work difficult. She moved carefully and slowly, handling the poisoned needle with caution while she took a wad of spicefiber from its chamber in the kit. The needle's shank fitted tightly into the fiber wad, forming a missile which went tightly into the tube of the sandsnorkel.

Holding the weapon flat, Ghanima wormed her way closer to the light, moving slowly to cause minimal disturbance in the alfalfa. As she moved, she studied the insects around the light. Yes, there were piume flies in that fluttering mob. They were notorious biters of human flesh. The poisoned dart might go unnoticed, swatted aside as a biting fly. A decision remained: Which one of those two to take—the man or the woman?

Muriz. The name came unbidden into Ghanima's mind. That was the woman's name. It recalled things said about her. She was one of those who fluttered around Palimbasha as the insects fluttered around the light. She was easily swayed, a weak one.

Very well. Palimbasha had chosen the wrong companion for this night.

Ghanima put the tube to her mouth and, with the memory of the priestess of Jowf clearly in her awareness, she sighted carefully, expelled her breath in one strong surge.

Palimbasha batted at his cheek, drew away a hand with a speck of blood on it. The needle was nowhere to be seen, flicked away by the motion of his own hand.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The woman said something soothing and Palimbasha laughed. As he laughed, his legs began to give away beneath him. He sagged against the woman, who tried to support him. She was still staggering with the dead weight when Ghanima came up beside her and pressed the point of an unsheathed crysknife against her waist.

In a conversational tone, Ghanima said: "Make no sudden moves, Muriz. My knife is poisoned. You may let go of Palimbasha now. He is dead."

In all major socializing forces you will find an underlying movement to gain and maintain power through the use of words. From witch doctor to priest to bureaucrat it is all the same. A governed populace must be conditioned to accept power-words as actual things, to confuse the symbolized system with the tangible universe. Large masses of people must be trained to believe and not to know. In the maintenance of such a power structure, certain symbols are kept out of the reach of common understanding—symbols such as those dealing with economic manipulation or those which define the local interpretation of sanity. Symbol-secrecy of this form leads to the development of fragmented sub-languages, each being a signal that its users are accumulating some form of power. With this insight into a power process, our Imperial Security Force must be ever alert to the formation of sub-languages.

—Lecture to the Arrakeen War College by The Princess Irulan

"It is perhaps unnecessary to tell you," Farad'n said, "but to avoid any errors I'll announce that a mute has been stationed with orders to kill you both should I show signs of succumbing to witchery."

He did not expect to see any effect from these words. Both the Lady Jessica and Idaho gratified his expectations.

Farad'n had chosen with care the setting for this first examination of the pair, Shaddam's old State Audience Chamber. What it lacked in grandeur it made up for with exotic appointments. Outside, it was a winter afternoon, but the windowless chamber's lighting simulated a timeless summer day bathed in golden light from artfully scattered glowglobes of the purest Ixian crystal.

The news from Arrakis filled Farad'n with quiet elation. Leto, the male twin, was dead, killed by an assassin-tiger. Ghanima, the surviving sister, was in the custody of her aunt and, reputedly, was a hostage. The full report did much to explain the presence of Idaho and the Lady Jessica. Sanctuary was what they wanted. Corrino spies reported an uneasy truce on Arrakis. Alia had agreed to submit herself to a test called "the Trial of Possession," the purpose of which had not been fully explained. However, no date

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

had been set for this trial and two Corrino spies believed it might never take place. This much was certain, though: there'd been fighting between desert Fremen and the Imperial Military Fremen, an abortive civil war which had brought government to a temporary standstill. Stilgar's holdings were now neutral ground, designated after an exchange of hostages. Ghanima evidently had been considered one of these hostages, although the working of this remained unclear.

Jessica and Idaho had been brought to the audience securely bound in suspensor chairs. Both were held down by deadly thin strands of shigawire which would cut flesh at the slightest struggle. Two Sardaukar troopers had brought them, checked the bindings, and had gone away silently.

The warning had, indeed, been unnecessary. Jessica had seen the armed mute standing against a wall at her right, an old but efficient projectile weapon in his hands. She allowed her gaze to roam over the room's exotic inlays. The broad leaves of the rare iron bush had been set with eye pearls and interlaced to form the center crescent of the domed ceiling. The floor beneath her was alternate blocks of diamond wood and kabuzu shell arranged within rectangular borders of passaquet bones. These had been set on end, laser cut and polished. Selected hard materials decorated the walls in stress-woven patterns which outlined the four positions of the Lion symbol claimed by descendants of the late Shaddam IV. The lions were executed in wild gold.

Farad'n had chosen to receive the captives while standing. He wore uniform shorts and a light golden jacket of elfsilk open at the throat. His only decoration was the princely starburst of his royal family worn at the left breast. He was attended by the Bashar Tyekanik wearing Sardaukar dress tans and heavy boots, an ornate lasegun carried in a front holster at the belt buckle. Tyekanik, whose heavy visage was known to Jessica from Bene Gesserit reports, stood three paces to the left and slightly behind Farad'n. A single throne of dark wood sat on the floor near the wall directly behind the two.

"Now," Farad'n said, addressing Jessica, "do you have anything to say?"

"I would inquire why we are bound thus?" Jessica said, indicating the shigawire.

"We have only just now received reports from Arrakis to explain your presence here," Farad'n said. "Perhaps I'll have you released presently." He smiled. "If you . . ." He broke off as his mother entered by the State doors behind the captives.

Wensicia hurried past Jessica and Idaho without a glance, presented a small message cube to Farad'n, actuated it. He studied the glowing

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

face, glancing occasionally at Jessica, back to the cube. The glowing face went dark and he returned the cube to his mother, indicated that she should show it to Tyekanik. While she was doing this, he scowled at Jessica.

Presently, Wensicia stationed herself at Farad'n's right hand, the darkened cube in her hand, partly concealed in a fold of her gown.

Jessica glanced to her right at Idaho, but he refused to meet her gaze.

"The Bene Gesserit are displeased with me," Farad'n said. "They believe I was responsible for the death of your grandson."

Jessica held her face emotionless, thinking: *So Ghanima's story is to be trusted, unless . . .* She didn't like the suspected unknowns.

Idaho closed his eyes, opened them to glance at Jessica. She continued to stare at Farad'n. Idaho had told her about his Rhajia vision, but she'd seemed unworried. He didn't know how to catalog her lack of emotion. She obviously knew something, though, that she wasn't revealing.

"This is the situation," Farad'n said, and he proceeded to explain everything he'd learned about events in Arrakis, leaving out nothing. He concluded: "Your granddaughter survives, but she's reportedly in the custody of the Lady Alia. This should gratify you."

"Did you kill my grandson?" Jessica asked.

Farad'n answered truthfully: "I did not. I recently learned of a plot, but it was not of my making."

Jessica looked at Wensicia, saw the gloating expression on that heart-shaped face, thought: *Her doing! The lioness schemes for her cub.* This was a game the lioness might live to regret.

Returning her attention to Farad'n, Jessica said: "But the Sisterhood believes you killed him."

Farad'n turned to his mother. "Show her the message."

As Wensicia hesitated, he spoke with an edge of anger which Jessica noted for future use. "I said show it to her!"

Face pale, Wensicia presented the message face of the cube to Jessica, activated it. Words flowed across the face, responding to Jessica's eye movements: "Bene Gesserit Council on Wallach IX files formal protest against House Corrino in assassination of Leto Atreides II. Arguments and showing of evidence are assigned to Landsraad Internal Security Commission. Neutral ground will be chosen and names of judges will be submitted for approval by all parties. Your immediate response required. Sabit Rekush for the Landsraad."

Wensicia returned to her son's side.

"How do you intend to respond?" Jessica asked.

Wensicia said: "Since my son has not yet been formally invested as head of House Corrino, I will . . .

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Where are you going?" This last was addressed to Farad'n who, as she spoke, turned and headed for a side door near the watchful mute.

Farad'n paused, half turned. "I'm going back to my books and the other pursuits which hold much more interest for me."

"How dare you?" Wensicia demanded. A dark flush spread from her neck up across her cheeks.

"I'll dare quite a few things in my own name," Farad'n said. "You have made decisions in my name, decisions which I find extremely distasteful. Either I will make the decisions in my own name from this point on or you can find yourself another heir for House Corrino!"

Jessica passed her gaze swiftly across the participants in this confrontation, seeing the real anger in Farad'n. The Bashar aide stood stiffly at attention, trying to make it appear that he had heard nothing. Wensicia hesitated on the brink of screaming rage. Farad'n appeared perfectly willing to accept any outcome from his throw of the dice. Jessica rather admired his poise, seeing many things in this confrontation which could be of value to her. It seemed that the decision to send assassin tigers against her grandchildren had been made without Farad'n's knowledge. There could be little doubt of his truthfulness in saying he'd learned of the plot after its inception. There was no mistaking the real anger in his eyes as he stood there, ready to accept any decision.

Wensicia took a deep, trembling breath, then: "Very well. The formal investiture will take place tomorrow. You may act in advance of it now." She looked at Tyekanik, who refused to meet her gaze.

There'll be a screaming fight once mother and son get out of here, Jessica thought. *But I do believe he has won.* She allowed her thoughts to return then to the message from the Landsraad. The Sisterhood had judged their messengers with a finesse which did credit to Bene Gesserit planning. Hidden in the formal notice of protest was a message for Jessica's eyes. The fact of the message said the Sisterhood's spies knew Jessica's situation and they'd gauged Farad'n with a superb nicety to guess he'd show it to his captive.

"I'd like an answer to my question," Jessica said, addressing herself to Farad'n as he returned to face her.

"I shall tell the Landsraad that I had nothing to do with this assassination," Farad'n said. "I will add that I share the Sisterhood's distaste for the manner of it, although I cannot be completely displeased at the outcome. My apologies for any grief this may have caused you. Fortune passes everywhere."

Fortune passes everywhere! Jessica thought. That'd been a favorite saying of her Duke and there'd been something in Farad'n's manner

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

which said he knew this. She forced herself to ignore the possibility that they'd really killed Leto. She had to assume that Ghanima's fears for Leto had motivated a complete revelation of the twins' plan. The Smugglers would put Gurney in position to meet Leto then and the Sisterhood's devices would be carried out. Leto had to be tested. He had to be. Without the testing he was doomed as Alia was doomed. And Ghanima . . . Well, that could be faced later. There was no way to send the preborn before a Reverend Mother Gaius Helen Mohiam.

Jessica allowed herself a deep sigh. "Sooner or later," she said, "it'll occur to someone that you and my granddaughter could unite our two Houses and heal old wounds."

"This has already been mentioned to me as a possibility," Farad'n said, glancing briefly at his mother. "My response was that I'd prefer to await the outcome of recent events on Arrakis. There's no need for a hasty decision."

"There's always the possibility that you've already played into my daughter's hands," Jessica said.

Farad'n stiffened, then: "Explain!"

"Matters on Arrakis are not as they may seem to you," Jessica said. "Alia plays her own game, Abomination's game. My granddaughter is in danger unless Alia can contrive a way to use her."

"You expect me to believe that you and your daughter oppose each other, that Atreides fights Atreides?"

Jessica looked at Wensicia, back to Farad'n. "Corrino fights Corrino."

A wry smile moved Farad'n's lips. "Well taken. How would I have played into your daughter's hands?"

"By becoming implicated in my grandson's death, by abducting me."

"Abduct . . ."

"Don't trust this witch," Wensicia cautioned.

"I'll choose whom to trust, Mother," Farad'n said. "Forgive me, Lady Jessica, but I don't understand this matter of abduction. I'd understood that you and your faithful retainer . . ."

"Who is Alia's husband," Jessica said.

Farad'n turned a measuring stare on Idaho, looked to the Bashar. "What think you, Tyek?"

The Bashar apparently was having thoughts similar to those Jessica professed. He said: "I like her reasoning. Caution!"

"He's a ghola-mentat," Farad'n said. "We could test him to the death and not find a certain answer."

"But it's a safe working assumption that we may've been tricked," Tyekanik said.

Jessica knew the moment had come to make her move. Now, if

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Idaho's grief only kept him locked in the part he'd chosen. She disliked using him this way, but there were larger considerations.

"To begin with," Jessica said, "I might announce publicly that I came here of my own free choice."

"Interesting," Farad'n said.

"You'd have to trust me and grant me the complete freedom of Salusa Secundus," Jessica said. "There could be no appearance that I spoke out of compulsion."

"No!" Wensicia protested.

Farad'n ignored her. "What reason would you give?"

"That I'm the Sisterhood's plenipotentiary sent here to take over your education."

"But the Sisterhood accuses . . ."

"That'd require a decisive action from you," Jessica said.

"Don't trust her!" Wensicia said.

With extreme politeness, Farad'n glanced at her, said: "If you interrupt me once more, I'll have Tyek remove you. He heard you consent to the formal investitute. That binds him to *me* now."

"She's a witch, I tell you!" Wensicia looked to the mute against the side wall.

Farad'n hesitated, then: "Tyek, have I been witched?"

"Not in my judgment. She . . ."

"You've both been witched!"

"Mother." His tone was flat and final.

Wensicia clenched her fists, tried to speak, whirled and fled the room.

Addressing himself once more to Jessica, Farad'n asked: "Would the Bene Gesserit consent to this?"

"They would."

Farad'n absorbed the implications of this, smiled tightly, then: "What does the Sisterhood want in all of this?"

"Your marriage to my granddaughter."

Idaho shot a questioning look at Jessica, made as though to speak, but remained silent.

Jessica said: "You were going to say something, Duncan?"

"I was going to say that the Bene Gesserit want what they've always wanted: a universe which won't interfere with them."

"An obvious assumption," Farad'n said, "but I hardly see why you intrude with it."

Idaho's eyebrows managed the shrug which the shigawire would not permit his body. Disconcertingly, he smiled.

Farad'n saw the smile, whirled to confront Idaho. "I amuse you?"

"This whole situation amuses me. Someone in your family has compromised the Spacing Guild by using them to carry instruments of assassination to Arrakis, instruments whose intent could not be concealed. You've offended the Bene Gesserit by killing a male they wanted for their breeding pro—"

"You call me a liar, ghola?"

"No. I believe you didn't know about the plot. But I thought the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

situation needed bringing into focus."

"Don't forget that he's a mentat," Jessica cautioned.

"My very thought," Farad'n said. Once more, he faced Jessica. "Let us say that I free you and you make your announcement. That still leaves the matter of your grandson's death. The mentat is correct."

"Was it your mother?" Jessica asked.

"My Lord!" Tyekanik warned.

"It's all right, Tyek." Farad'n waved a hand easily. "And if I say it was my mother?"

Risking everything in the test of this internal break among the Corrino, Jessica said: "You must denounce her and banish her."

"My Lord," Tyekanik said, "there could be trickery within trickery here."

Idaho said: "And the Lady Jessica and I are the ones who've been tricked."

Farad'n's jaw hardened.

And Jessica thought: *Don't interfere, Duncan! Not now!* But Idaho's words had sent her own Bene Gesserit abilities at logic into motion. He shocked her. She began to wonder if there were the possibility that she was being used in ways she didn't understand. Ghanima and Leto . . . The pre-born could draw upon countless inner experiences, a storehouse of advice far more extensive than the living Bene Gesserit depended upon. And there was that other question: Had her own Sisterhood been completely candid with her? They still might not trust her. After all, she'd betrayed them once . . .

Farad'n looked at Idaho with a puzzled frown. "Mentat, I need to know what this Preacher is to you."

"He arranged the passage here. I . . . we did not exchange ten words. Others acted for him. He could be . . . He could be Paul Atreides, but I don't have enough data for certainty. All I know for certain is that it was time for me to leave and he had the means."

"You speak of being tricked," Farad'n reminded him.

"Alia expects you to kill us quietly and conceal the evidence of it," Idaho said. "Having rid her of the Lady Jessica, I'm no longer useful. And the Lady Jessica, having served her Sisterhood's purposes, is no longer useful to them. Alia will be calling the Bene Gesserit to account, but they will win."

Jessica closed her eyes in concentration. He was right! She could hear the mentat firmness in his voice, that deep sincerity of pronouncement. The pattern fell into place without a chink. She took two deep breaths and triggered the mnemonic trance, rolled the data through her mind, came out of the trance and opened her eyes. It was done while Farad'n moved from in front of her to a position within half a step of Idaho—a space of no more than three steps.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Say no more, Duncan," Jessica said, and she thought mournfully of how Leto had warned her against Bene Gesserit conditioning.

Idaho, about to speak, closed his mouth.

"I command here," Farad'n said. "Continue, mentat."

Idaho remained silent.

Farad'n half turned to study Jessica.

She stared at a point on the far wall, reviewing what Idaho and the trance had built. The Bene Gesserit hadn't abandoned the Atreides line, of course. But they wanted control of a Kwisatz Haderach and they'd invested too much in the long breeding program. They wanted the open clash between Atreides and Corrino, a situation where they could step in as arbiters. And Duncan was right. They'd emerge with control of both Ghanima and Farad'n. It was the only compromise possible. The wonder was that Alia hadn't seen it. Jessica swallowed past a tightness in her throat. Alia . . . Abomination. Ghanima was right to pity her. But who was left to pity Ghanima?

"The Sisterhood has promised to put you on the throne with Ghanima as your mate," Jessica said.

Farad'n took a backward step. Did the witch read minds?

"They worked secretly and not through your mother," Jessica said. "They told you I was not privy to their plan."

Jessica read revelation in Farad'n's face. How open he was. But it was true, the whole structure. Idaho had demonstrated masterful abilities as a mentat in seeing through to the fabric on the limited data available to him.

"So they played a double game and told you," Farad'n said.

"They told me nothing of this," Jessica said. "Duncan was correct: they tricked me." She nodded to herself. It'd been a classic delaying action in the Sisterhood's traditional pattern—a reasonable story, easily accepted because it squared with what one might believe of their motives. But they wanted Jessica out of the way—a flawed sister who'd failed them once.

Tyekanik moved to Farad'n's side. "My Lord, these two are too dangerous . . ."

"Wait a bit, Tyek," Farad'n said. "There are wheels within wheels here." He faced Jessica. "We've had reasons to believe that Alia might offer herself as my bride."

Idaho gave an involuntary start, controlled himself. Blood began dripping from his left wrist where the shigawire had cut.

Jessica allowed herself a small, eye-widening response. She who'd known the original Leto as lover, father of her children, confidant and friend, saw his trait of cold reasoning filtered now through the twistings of an Abomination.

"Will you accept?" Idaho asked.

"It is being considered."

"Duncan, I told you to be si-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

lent," Jessica said. She addressed Farad'n. "Her price was two inconsequential deaths—the two of us."

"We suspected treachery," Farad'n said. "Wasn't it your son who said, 'Treachery breeds treachery'?"

"The Sisterhood is out to control both Atreides and Corrino," Jessica said. "Isn't that obvious?"

"We're toying now with the idea of accepting your offer, Lady Jessica, but Duncan Idaho should be sent back to his loving wife."

Pain is a function of nerves, Idaho reminded himself. *Pain comes as light comes to the eyes. Effort comes from the muscles, not from nerves.* It was an old mentat drill and he completed it in the space of one breath, flexed his right wrist and severed an artery against the shigawire.

Tyekanik leaped to the chair, hit its trip lock to release the bindings, shouted for medical aid. It was revealing that assistants came swarming at once through doors hidden in wall panels.

There was always a bit of foolishness in Duncan, Jessica thought.

Farad'n studied Jessica a moment while the medics ministered to Idaho. "I didn't say I was going to accept his Alia."

"That's not why he cut his wrist," Jessica said.

"Oh? I thought he was simply removing himself."

"You're not that stupid," Jessica said. "Stop pretending with me."

He smiled. "I'm well aware that Alia would destroy me. Not even the Bene Gesserit could expect me to accept her."

Jessica bent a weighted stare upon Farad'n. What was this young scion of House Corrino? He didn't play the fool well. Again, she recalled Leto's words that she'd encounter an interesting student. And The Preacher wanted this as well, Idaho said. She wished she'd met this Preacher.

"Will you banish Wensicia?" Jessica asked.

"It seems a reasonable bargain," Farad'n said.

Jessica glanced at Idaho. The medics had finished with him. Less dangerous restraints held him in the floater chair.

"Mentats should beware of absolutes," she said.

"I'm tired," Idaho said. "You've no idea how tired I am."

"When it's over-exploited, even loyalty wears out finally," Farad'n said.

Again, Jessica shot that measuring stare at him.

Farad'n, seeing this, thought: *In time she'll know me for certain and that could be valuable. A renegade Bene Gesserit of my own! It's the one thing her son had that I don't have. Let her get only a glimpse of me now. She can see the rest later.*

"A fair exchange," Farad'n said. "I accept your offer on your terms." He signaled the mute against the wall with a complex

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

flickering of fingers. The mute nodded. Farad'n bent to the chair's controls, released Jessica.

Tyekanik asked: "My Lord, are you sure?"

"Isn't it what we discussed?" Farad'n asked.

"Yes, but . . ."

Farad'n chuckled, addressed Jessica. "Tyek suspects my sources. But one learns from books and reels only that certain things can be done. Actual learning requires that you do those things."

Jessica mused on this as she lifted herself from the chair. Her mind returned to Farad'n's hand signals. He had an Atreides-style battle language! It spoke of careful analysis. Someone here was consciously copying the Atreides.

"Of course," Jessica said, "you'll want me to teach you as the Bene Gesserit are taught."

Farad'n beamed at her. "The one offer I cannot resist," he said.

The password was given to me by a man who died in the dungeons of Arrakeen. You see, that is where I got this ring in the shape of a tortoise. It was in the suk outside the city where I was hidden by the rebels. The password? Oh, that has been changed many times since then. It was "Persistence." And the countersign was "Tortoise." It got me out of there alive; that's why I bought this ring: a reminder.

—Tagir Mohandis:
Conversations With a Friend

Leto was far out on the sand when he heard the worm behind him, coming to his thumper there and the dusting of spice he'd spread around the dead tigers. There was a good omen for this beginning of their plan: worms were scarce enough in these parts most times. The worm was not essential, but it helped. There would be no need for Ghanima to explain a missing body.

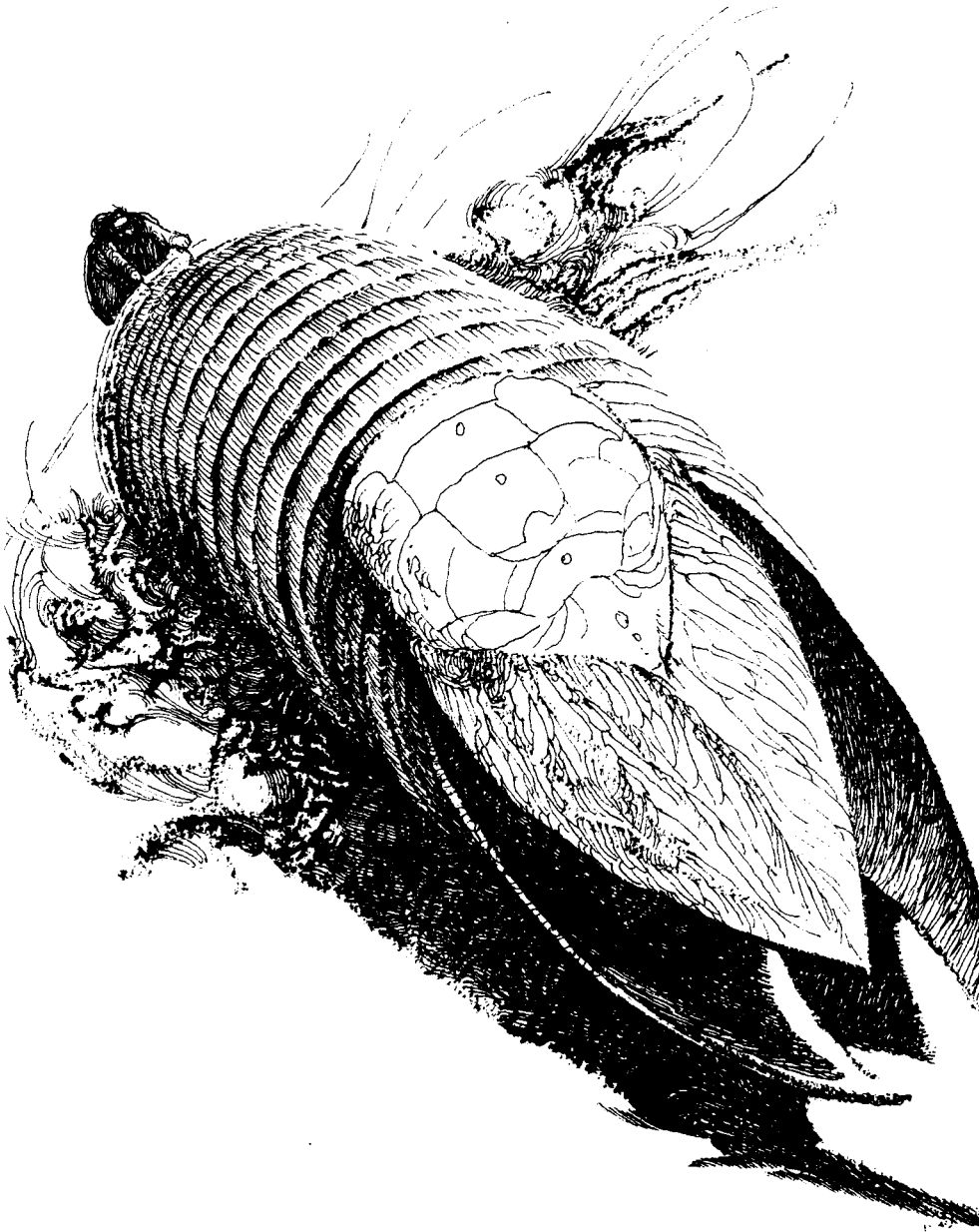
By this time, he knew that Ghanima had worked herself into the belief that he was dead. Only a tiny, isolated capsule of awareness would remain to her, a walled-off memory which could be recalled by words uttered in the ancient language shared only by the two of them in all of this universe. *Secher Nbiw*. If she heard those words: *Golden Path* . . . only then would she remember him. Until then, he was dead.

Now, Leto felt truly alone.

He moved with the random walk which made only those sounds natural to the desert. Nothing in his passage would tell that worm back there that human flesh moved here. It was a way of walking so deeply conditioned in him that he didn't need to think about it. The feet moved of themselves, no measurable rhythm to their pacing. Any sound his feet made could be ascribed to the wind, to gravity. No human passed here.

When the worm had done its work behind him, Leto crouched

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

behind a dune's slipface and peered back toward The Attendant. Yes, he was far enough. He planted a thumper and summoned his transportation. The worm came swiftly, giving him barely enough time to position himself before it engulfed the thumper. As it passed, he went up its side on the maker hooks, opened the sensitive leading edge of a ring and turned the mindless beast southeastward. It was a small worm, but strong. He could sense the strength in its twisting as it hissed across the dunes. There was a following breeze and he felt the heat of their passage, the friction which the worm converted to the beginnings of spice within itself.

As the worm moved, his mind moved. Stilgar had taken him up for his first worm journey. Leto had only to let his memory flow and he could hear Stilgar's voice: calm and precise, full of politeness from another age. Not for Stilgar the threatening staggers of a Fremen drunk on spice liquor. Not for Stilgar the loud voice and bluster of these times. No—Stilgar had his duties. He was an instructor of royalty.

"In the olden times, the birds were named for their songs. Each wind had its name. A six-klick wind was called Pastaza; a twenty-klick wind was Cueshma, and a hundred-klick wind was Heinali—Heinali, the man-pusher; then there was the wind of the demon in the open desert: Hulasikali Wala, the wind that eats flesh."

And Leto, who'd already known these things, had nodded his gratitude at the wisdom of such instruction.

But Stilgar's voice could be filled with many valuable things.

"There were in olden times certain tribes which were known to be water hunters. They were called Iduali, which meant Water Insects, because those people wouldn't hesitate to steal the water of another Fremen. If they caught you alone in the desert, they would not even leave you the water of your flesh. There was this place where they lived: Sietch Jacurutu. That's where the other tribes banded and wiped out the Iduali. That was a long time ago, before Kynes even; in my great-great-grandfather's days. And from that day to this, no Fremen has gone to Jacurutu. It is taboo."

Thus had Leto been reminded of knowledge which lay in his memory. It had been an important lesson about the working of memory. A memory was not enough, even for one whose past was as multiform as his, unless its use was known and its value revealed to judgment. Jacurutu would have water, a wind trap, all of the attributes of a Fremen sietch, plus the value without compare that no Fremen would venture there. Many of the young would not even know such a place as Jacurutu had ever

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

existed. Oh, they would know about Fondak, of course, but that was a smuggler place.

It was a perfect place for the dead to hide—among the smugglers and the dead of another age.

Thank you, Stilgar.

The worm tired before dawn. Leto slid off its side and watched it dig itself into the dunes, moving slowly in the familiar pattern of the creatures. It would go deep and sulk.

I must wait out the day, he thought.

He stood atop a dune and scanned all around: emptiness, emptiness, emptiness. Only the wavering track of the vanished worm broke the pattern.

The slow cry of a nightbird challenged the first green line of light along the eastern horizon. Leto dug himself into the sand's concealment, inflated a stilltent around his body and sent the tip of a sandsnorkel questing for air.

For a long time before sleep came, he lay in the enforced darkness thinking about the decision he and Ghanima had made. It had not been an easy decision, especially for Ghanima. He had not told her all of his vision, nor all of the reasoning derived from it. It was a vision, not a dream, in his thinking now. But the peculiarity of this thing was that he saw it as a vision of a vision. If any argument existed to convince him that his father still lived, it lay in that vision-vision.

The life of the prophet locks us into his vision, Leto thought. *And a prophet could only break out of the vision by creating his death at variance with that vision.* That was how it appeared in Leto's doubled-vision, and he pondered this as it related to the choice he had made. *Poor Baptist John,* he thought. *If he'd only had the courage to die some other way . . . But perhaps his choice had been the bravest one. How do I know what alternatives faced him? I know what alternatives faced my father, though.*

Leto sighed. To turn his back on his father was like betraying a god. But the Atreides Empire needed shaking up. It had fallen into the worst of Paul's vision. How casually it obliterated men. It was done without a second thought. The mainspring of a religious insanity had been wound tight and left ticking.

And we're locked in my father's vision.

A way out of that insanity lay along the Golden Path, Leto knew. His father had seen it. But humanity might come out of that Golden Path and look back down it at Muad'Dib's time, seeing that as a better age. Humankind had to experience the alternative to Muad'Dib, though, or never understand its own myths.

Security, peace, prosperity . . .

Given the choice, there was little doubt what most citizens of this Empire would select.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Though they hate me, he thought. *Though Ghani hate me.*

His right hand itched, and he thought of the terrible glove in his vision-vision. *It will be,* he thought. *Yes, it will be.*

Arrakis, give me strength, he prayed. His planet remained strong and alive beneath him and around him. Its sand pressed close against the stilltent. Dune was a giant counting its massed riches. It was a beguiling entity, both beautiful and grossly ugly. The only coin its merchants really knew was the blood-pulse of their own power, no matter how that power had been amassed. They possessed this planet the way a man might possess a captive mistress, or the way the Bene Gesserits possessed their sisters.

No wonder Stilgar hated the merchant-priests.

Thank you, Stilgar.

Leto recalled then the beauties of the old sietch ways, the life lived before the coming of the Imperium's technocracy, and his mind flowed as he knew Stilgar's dreams flowed. Before the glowglobes and lasers, before the ornithopters and spice crawlers, there'd been another kind of life: brown-skinned mothers with babies on their hips, lamps which burned spice oil amidst a heavy fragrance of cinnamon, Naibs who pursuaded their people while knowing none could be compelled. It had been a darkswarming of life in rocky burrows . . .

A terrible glove will restore the balance, Leto thought.

Presently, he slept.

I saw his blood and a piece of his robe which had been ripped by sharp claws. His sister reports vividly of the tigers, the sureness of their attack. We have questioned one of the plotters and others are dead or in custody. Everything points to a Corrino plot. A Truthsayer has attested to this testimony.

—Stilgar's Report to
the Landsraad Commission

Farad'n studied Duncan Idaho through the spy circuit, seeking a clue to that strange man's behavior. It was shortly after noon and Idaho waited outside the quarters assigned to the Lady Jessica, seeking audience with her. Would she see him? She'd know they were spied upon, of course. But would she see him?

Around Farad'n lay the room where Tyekanik had guided the training of the Laza tigers—an illegal room, really, filled as it was with forbidden instruments from the hands of the Tleilaxu and Ixians. By the movement of switches at his right hand, Farad'n could look at Idaho from six different angles, or shift to the interior of the Lady Jessica's suite where the spying facilities were equally sophisticated.

Idaho's eyes bothered Farad'n. Those pitted metal orbs which the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Tleilaxu had given their ghola in the regrowth tanks marked their possessor as profoundly different from other humans. Farad'n touched his own eyelids, feeling the hard surfaces of the permanent contact lenses which concealed the total blue of his spice addiction. Idaho's eyes must record a different universe. How could it be otherwise. It almost tempted Farad'n to seek out the Tleilaxu surgeons and answer that question himself.

Why did Idaho try to kill himself?

Was that really what he'd tried? He must've known we wouldn't permit it.

Idaho remained a dangerous question mark.

Tyekanik wanted to keep him on Salusa or kill him. Perhaps that would be best.

Farad'n shifted to a frontal view. Idaho sat on a hard bench outside the door of the Lady Jessica's suite. It was a windowless foyer with light wood walls decorated by lance penants. Idaho had been on that bench more than an hour and appeared ready to wait there forever. Farad'n bent close to the screen. The loyal swordmaster of the Atreides, instructor of Paul Muad'Dib, had been treated kindly by his years on Arrakis. He'd arrived with a youthful spring in his step. A steady spice diet must've helped him, of course. And that marvelous metabolic balance which the Tleilaxu tanks always imparted. Did Idaho really remember his past before the tanks? No other whom the Tleilaxu had revived could claim this. What an enigma this Idaho was!

The reports of his death were in the library. The Sardaukar who'd slain him reported his prowess: nineteen of their number dispatched by Idaho before he'd fallen. Nineteen Sardaukar! His flesh had been well worth sending to the regrowth tanks. But the Tleilaxu had made a mentat out of him. What a strange creature lived in that regrown flesh. How did it feel to be a human computer in addition to all of his other talents?

Why did he try to kill himself?

Farad'n knew his own talents and held few illusions about them. He was a historian/archeologist and judge of men. Necessity had forced him to become an expert on those who would serve him—necessity and a careful study of the Atreides. He saw it as the price always demanded of aristocracy. To rule required accurate and incisive judgments about those who wielded your power. More than one ruler had fallen through mistakes and excesses of his underlings.

Careful study of the Atreides revealed a superb talent in choosing servants. They'd known how to maintain loyalty, how to keep a fine edge on the ardor of their warriors.

Idaho was not acting in character.

Why?

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Farad'n squinted his eyes, trying to see past the skin of this man. There was a sense of duration about Idaho, a feeling that he could not be worn down. He gave the impression of being self-contained, an organized and firmly integrated whole. The Tleilaxu tanks had set something more than human into motion. Farad'n sensed this. There was a self-renewing movement about the man, as though he acted in accordance with immutable laws, beginning anew at every ending. He moved in a fixed orbit with an endurance about him like that of a planet around a star. He would respond to pressure without breaking—merely shifting his orbit slightly, but not really changing anything basic.

Why did he cut his wrist?

Whatever his motive, he had done it for the Atreides, for his ruling House. The Atreides were the star of his orbit.

Somehow, he believes that my holding the Lady Jessica here strengthens the Atreides.

And Farad'n reminded himself: *A mentat thinks this.*

It gave the thought an added depth. Mentats made mistakes, but not often.

Having come to this conclusion, Farad'n almost summoned his aides to have them send the Lady Jessica away with Idaho. He poised himself on the point of acting, withdrew.

Both of those people—the gholamentat and the Bene Gesserit witch—remained counters of unknown denomination in this game of power. Idaho must be sent back because that would certainly stir up troubles in Arrakis. Jessica must be kept here, drained of her strange knowledge to benefit House Corrino.

Farad'n knew it was a subtle and deadly game he played. But he had prepared himself for this possibility over the years, ever since he'd realized that he was more intelligent, more sensitive than those around him. It had been a frightening discovery for a child, and he knew the library had been his refuge as well as his teacher.

Doubts ate at him now, though, and he wondered if he was quite up to this game. He'd alienated his mother, lost her counsel, but her decisions had always been dangerous to him. Tigers! Their training had been an atrocity and their use had been stupidity. How easy they were to trace. She should be thankful to suffer nothing more than banishment. The Lady Jessica's advice had fitted his needs with a lovely precision there. She must be made to divulge the way of that Atreides thinking.

His doubts began to fade away. He thought of his Sardaukar once more growing tough and resilient through the rigorous training and the denial of luxury which he commanded. His Sardaukar legions remained small, but once more they

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

were a man-to-man match for the Fremen. That served little purpose as long as the limits imposed by the Treaty of Arrakeen governed the relative size of the forces. Fremen could overwhelm him by their numbers—unless they were tied up and weakened by civil war.

It was too soon for a battle of Sardaukar against Fremen. He needed time. He needed new allies from among the discontented Houses Major and the newly powerful from the Houses Minor. He needed access to CHOAM financing. He needed the time for his Sardaukar to grow stronger and the Fremen to grow weaker.

Again, Farad'n looked at the screen which revealed the patient ghola. Why did Idaho want to see the Lady Jessica at this time? He would know they were spied upon, that every word, every gesture would be recorded and analyzed.

Why?

Farad'n glanced away from the screen to the ledge beside his control console. In the pale electronic light he could make out the spools which contained the latest reports from Arrakis. His spies were thorough; he had to give them credit. There was much to give him hope and pleasure in those reports. He closed his eyes and the high points of those reports passed through his mind in the oddly editorial form to which he'd reduced the spools for his own uses:

As the planet is made fertile, Fremen are freed of land pressures and their new communities lose the traditional sietch-stronghold character. From infancy, in the old sietch culture, the Fremen was taught by the rota: "Like the knowledge of your own being, the Sietch forms a firm base from which you move out into the world and into the universe."

The traditional Fremen says: "Look to the Massif," meaning that the master science is the Law. But the new social structure is loosening those old legal restrictions; discipline grows lax. The new Fremen leaders know only their Low Catechism of ancestry plus the history which is camouflaged in the myth structure of their songs. People of the new communities are more volatile, more open; they quarrel more often and are less responsive to authority. The Old Sietch folk are more disciplined, more inclined to group actions and they tend to work harder; they are more careful of their resources. The old folk still believe that the orderly society is the fulfillment of the individual. The young grow away from this belief. Those remnants of the older culture which remain look at the young and say: "The death wind has etched away their past."

Farad'n liked the pointedness of his own summary. The new diversity on Arrakis could only bring violence. He had the essential concepts firmly etched into the spools:

The religion of Muad'Dib is based firmly in the Old Fremen Sietch cultural tradition while the new culture

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

moves farther and farther from those disciplines.

Not for the first time, Farad'n asked himself why Tyekanik had embraced that religion. Tyekanik behaved oddly in his new morality. He seemed utterly sincere, but carried along as though against his will. Tyekanik was like one who had stepped into the whirlwind to test it and had been caught up by forces beyond his control. Tyekanik's conversion annoyed Farad'n by its characterless completeness. It was a reversion to very old Sardaukar ways. He warned that the young Fremen might yet revert in a similar way, that the inborn, ingrained traditions would prevail.

Once more, Farad'n thought about those report spools. They told of a disquieting thing: the persistence of a cultural remnant from the most ancient Fremen times—"The Water of Conception." The amniotic fluid of the newborn was saved at birth, distilled into the first water fed to that child. The traditional form required a godmother to serve the water, saying: "Here is the water of thy conception." Even the young Fremen still followed this tradition.

The water of thy conception.

Farad'n found himself revolted by the idea of drinking water distilled from the amniotic fluid which had borne him. And he thought about the surviving twin, Ghanima, her mother dead when she'd taken that strange water. Had she reflected later upon that odd link with her past? Probably not. She'd been raised Fremen. What was natural and acceptable to Fremen had been natural and acceptable to her.

Momentarily, Farad'n regretted the death of Leto II. It would have been interesting to discuss this point with him. Perhaps an opportunity would come to discuss it with Ghanima.

Why did Idaho cut his wrists?

The question persisted every time he glanced at the spy screen. Again, doubts assailed Farad'n. He longed for the ability to sink into the mysterious spice trance as Paul Muad'Dib had done, there to seek out the future and *know* the answers to his questions. No matter how much spice he ingested, though, his ordinary awareness persisted in its singular flow of *now*, reflecting a universe of uncertainties.

The spy screen showed a servant opening the Lady Jessica's door. The woman beckoned Idaho, who arose from the bench and went through the door. The servant would file a complete report later, but Farad'n, his curiosity once more fully aroused, touched another switch on his console, watched as Idaho entered the sitting room of the Lady Jessica's quarters.

How calm and contained the mentat appeared. And how fathomless were his ghola eyes.

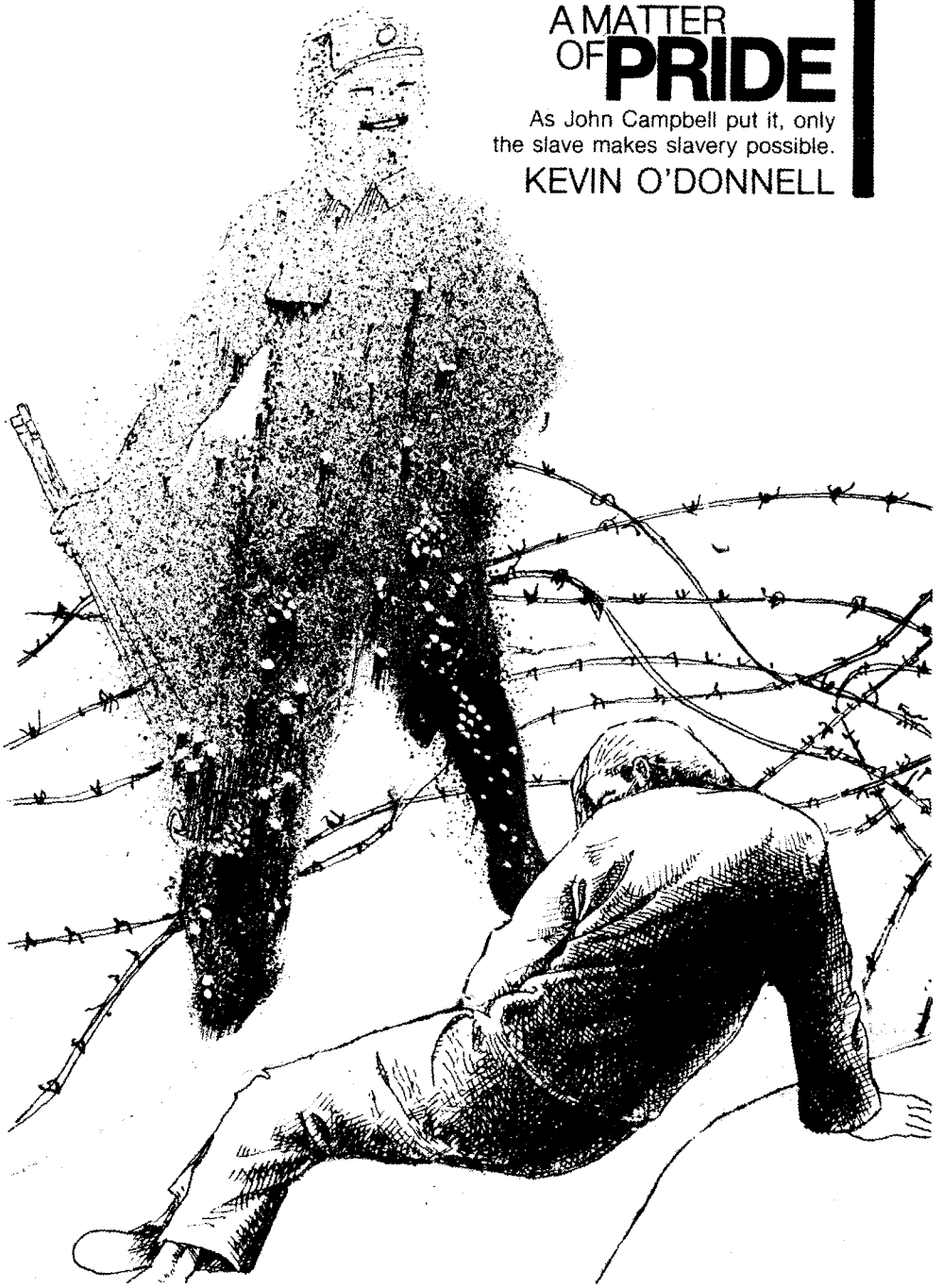
TO BE CONTINUED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

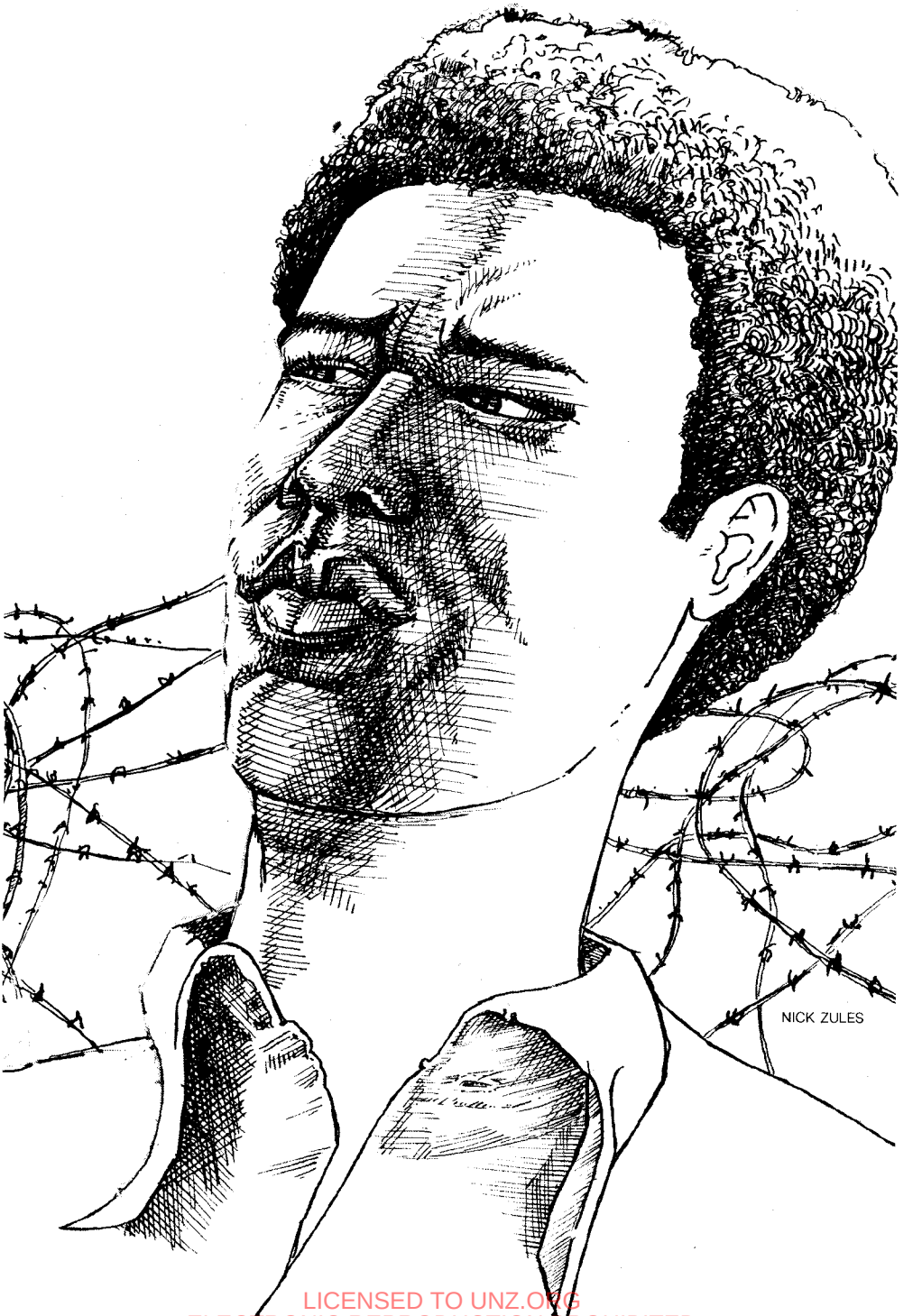
A MATTER OF PRIDE

As John Campbell put it, only the slave makes slavery possible.

KEVIN O'DONNELL



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The shadow of the F-15 was a dancing black speck on the snow-streaked North Korean mountains far below. From the pilot's seat, they seemed calm and serene in the early morning sun. Aloofly indifferent, their rugged crests gazed across wisps of transient cloud like royalty ignoring rabble.

Air Force Major McDonald King scanned his crowded instrument panel. Less than ten minutes before entering Manchurian airspace, he tested his machine guns and watched the tracers, brilliant even in daylight, arc into their fifty-thousand-foot drop. Then, leaning back in his contour seat and taking a deep breath, he forced his mind away from the sick, hollow tension in the pit of his stomach. That would ride with him until he came within shooting distance of his first MIG, and would return a minute after the MIG plunged flaming into the arid winter landscape. It was as much a part of the role he had to play as the dog tags around his neck.

King didn't see the SAM-12, not even after it bit into his left wing and blew the shining metal into a million tumbling fragments. At the first sudden jolt, his right hand slapped the ejector button. He closed his eyes tightly, as the explosive charge under his seat blasted him through the canopy. Then he was out of the cockpit and the angry winter wind slapped him unconscious.

Dazed and lethargic, he became aware that he was being herded down a long, dank corridor. Ahead of him, shoulders squared and boots clicking with military precision, marched a North Korean captain. Under each of King's leaden arms, a private was trying to take some of the weight off his numb legs. The major swiveled his head; the muscles in his neck seemed stiff and rebellious. Ten feet behind him, alert brown eyes watching every move, yet another soldier carried his gun at the ready, with the safety catch off. The American, amused by the compliment thus paid him, smiled involuntarily and let his head loll around to the front. His mind retreated and for a time he knew nothing.

He was being helped into a helicopter; the captain was thrusting a cane into his flaccid hands and saying, "Take this, you will find need of it."

Then the helicopter was fighting its way up into the predawn gray and King sagged down in his seat, dimly cognizant that an armed medic, separated from him by several large burlap sacks, was watching him closely. He let his weary, heavy eyes slide shut.

Eventually the annoying clatter ground down into a soft silence. King felt hands touching him, pulling him, trying to prod him into

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

wakefulness, but he laughed inside his mind and thought, *Uh-uh, baby, I'm just too tired, so if you want me to go somewhere, why, you just go ahead and carry me.* The morning wind chilled his face; he heard men mutter familiar curses. His boots were tugged off; he was dragged across a painful ridge on a floor, which became warm, and he was being rolled onto a thin mattress. He could feel firmness through the mattress, and the floor's heat comforted him, and he slept.

Hours later, his mind crawled from its place of sanctuary like an animal coming into the spring sun after a winter of hibernation. He blinked his eyes, and let them focus at their own speed.

The ceiling above was a dirty white. Hanging from its middle was a single round fluorescent tube. On the walls was torn yellow paper, stained and faded by years of service. When he rolled his head to the left, he saw a low wooden table on which rested a chipped green tea pot and two small cups. Near his right side, cloth hissed on varnished rice paper and he felt the physical presence of another human being. After listening to his heart race for several uneasy seconds, he finally turned to look into the face of the man sitting cross-legged on the floor.

It was a short, skinny, hook-nosed American with a long mane of stringy blond hair. "Well, I'll be damned," breathed King. "You ain't no gook."

"No, sir," smiled the other, rising to his feet. "Captain Philip Schwartz, at your service." His angular face was youthful, but his voice and his movements were those of an old man.

King's eyes registered the cane in the corner; his mind, freed of the clouds that had wreathed it for days, linked the cane and the captain and he said, "Sit down, man. No need to come to attention just 'cause I woke up."

"Thank you, sir." He sank back to the floor with visible relief. "Truth to tell, though, sir, we were starting to get worried about you. You've slept longer than most. Probably something to do with your size."

King stretched his six feet and four inches while he gave a great yawn. "Yeah, wonder why." His face itched and he scratched the coarse stubble on his cheeks with his palm. "Jesus, I feel like they doped me to the ears."

Schwartz looked as though he wanted to reply, but he stopped himself and said only, "There's a bathroom down the hall, sir. You'll find a pigeonhole with your name on it; inside it is shaving equipment, toothbrush, soap, et cetera. I'll help you down there now, and show you how to use the bath. Colonel Hoefler would like to see you as soon as possible."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Shit, I don't need any help, Captain." He rolled over onto his stomach and tried to push himself up. Nothing happened. "Uh," he said sheepishly, "on second thought, Captain, if you'd be so kind—"

He heard a stifled chuckle and then the other's hands were in his armpits, pulling him into a kneeling position. After a few minutes of grunting got him to his feet, the captain took his elbow and guided him across the warm floor. "It's a little hard to get used to, at first, Major." At the doorway, he said, "Hold onto the door a minute, I'll get our canes." Then he was back, and gestured to a pair of straw slippers that waited on the wooden floor outside. "Please remember to take your slippers off before you come into the room, Major."

"Local custom?" He stepped into them; the rough straw was scratchy and uncomfortable.

"Yes, sir."

"All right." He shuffled his feet until the slippers set right. "I'll make sure I do."

"Good." He grasped King's arm again and led him down the hallway. Two wooden canes tapped a measured rhythm on the warped boards; their progress was slow and halting. "Have you ever used a Japanese-style bath?"

"Uh-uh. I've only been out here two, three weeks. Never got around to getting out on the town."

"Well, it's not too difficult." They reached the end of the passage and Schwartz pushed at a swinging door with a frosted glass panel set into its top half. "Just remember, you can't wash in the tub."

Anger flared in King's eyes. He turned his head with a painful jerk and rasped, "Hey, I didn't take you for no—"

"Sorry, Major. No offense meant." He held up his hands in a placating way and smiled nervously. "See, it's Japanese-style. You soap down and rinse off outside the tub. Once you're clean and soap-free, you can get in and soak up all the heat you want. But not before."

King's anger still glowed within and made it hard to ask the obvious question. At last, he managed to say, "Why?"

"Water's scarce up here in the mountains. So is fuel. We don't have enough of either to afford a separate tub for everybody, so we keep a tubful hot and share it, just like the Koreans do. OK?"

"Yeah." He forced a grudging smile and added, "Thanks."

"It's OK." He looked at his watch. "Say, I've got to go take care of the fires. When you're finished, I'll meet you back in the room we were in and take you to the colonel."

"He's not in this building?"

"No, he's in another one." Hobbling away, Schwartz turned and smiled. "Major—if you get stuck in the tub, and can't get out,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

don't be embarrassed. It happens at least once a day around here. Just holler; somebody'll hear you."

Clean-shaven and refreshed, King was guided across a snow-heaped square forty-five minutes later. It was late afternoon. The sun was poised on the ridge of barren mountains that lay to the west; soon it would roll down the far slope and throw the area into deep shadow. King turned, and saw that the camp was on a shelf of those same mountains. To the east, the land fell away rapidly; across the horizon and blending into the clear sky was a band of dark blue. "The sea?" he asked, pointing with his free hand.

Schwartz leaned on his walking stick and caught his breath. "Yes. Not far, either. But look at it later. The colonel wants to see you now."

The colonel's small wooden building, like the other six that made up the camp, was unimpressive. Roofed with red brick tiles shaped like pipes split lengthwise, it was beaten black by the fierce climate. Steps led up to a porch that ran the width of the front; King's heavy boots and weak muscles found them irksome, and he was glad to have a banister to cling to. Once inside the tiny, unheated vestibule, he doffed his boots and slipped into a pair of the sandals that seemed available in great quantities. Schwartz nodded his blond head approvingly, and walked down the short corridor. His cane thumped heavily with each step.

Through an open sliding door King could see the colonel seated behind a squat wooden table, evidently his desk. Before Schwartz could cough and alert the senior officer to their presence, King had time for a quick examination.

Colonel Hoefler was middle-aged, with worry lines etched deep into his suntanned forehead that added a dozen years to his appearance. Yet even sitting tailor-style, he held his spine at a perfect ninety-degree angle to the ground; his brush-cut gray hair further accentuated his martial air, his faith in rigorous military discipline. The insignia of a full colonel shone on the shoulders of his faded, patched fatigues; King's eye was sharp enough to see that knife-edged creases had somehow been beaten into the tired fabric. Hoefler's stubborn self-control, even in a private room in a prison camp, impressed King, who unconsciously began to draw himself a bit straighter.

Schwartz cleared his throat and the colonel came out of his brown study. He raised his head and smiled when he caught sight of the two men in the doorway. "Majuh King, Ah presume?" he asked in a soft Southern drawl.

"Yes, sir," said King. *Goddam my luck,* he cursed silently as he did his best to come to attention and offer a salute.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Don't bother with any of that, son. Just leave your cane in the hall and come on in." His deep gray eyes darted to the other officer. "Captain Schwartz, thank you kindly for escorting the major on over. That will be all."

"Yes, sir." He turned and made his laborious way down the hallway; his cane was audible for quite a while.

King watched Schwartz' back retreat and felt a moment of panic. Then he propped his stick against the wall and entered the colonel's quarters.

"Just grab one of those mats and make yourself comfortable," advised the colonel. "Care for some tea?"

"No thank you, sir." He sat stiff and ill at ease while a crinkly smile broke out on the other man's face.

"Relax, Major. I'm not thinking of having you for breakfast." He studied King for a long moment, then reached for the tea pot at the end of the table and poured himself a cup. His eyes on the stream of amber liquid, he said quietly, "Major, you and I, we can either get along real well together or we can not get along at all. I see my accent sets you on edge, and I reckon I can't really blame you. I'll be honest. I'm a Georgia cracker who's had a little education and a helluva lot of luck. You're a black man. From your voice, you've had a helluva lot of education and maybe not too much luck. We can't help that, not now. 'Bout all we can do is keep it from letting us be friends. I'm not going to tell you that I'm no bigot, that's a line you've probably heard from too damn many liars. I'm just gonna tell you, don't make up your mind 'bout me until you've got some facts in your hands. Deal?"

"Yes, sir," replied King with a shade less reserve.

Hoefler stared at him thoughtfully, then nodded in satisfaction. "Thanks, Major, I appreciate it." He glanced at his watch, then looked up. "Say, Lieutenant Warden, the stores clerk, he'll find you tonight and issue you some of the basics. Pen, paper, cheap watch, that sort of stuff."

King smiled his thanks and the colonel went on. "We don't have too much time, because you've got to meet the Korean honcho of this place, a captain by the name of Kim. I'll be quick. First, you're third in command here, after me and Colonel Michaels. I want you to know this camp inside-out in a week, so that if anything happens to us you can keep it running. Shouldn't be too hard," he snorted, "there's not much here. Second, this is an officers' camp. This leads to tensions sometimes; specially when it's a captain's turn to sweep out the ashes. No favoritism. Everybody takes a turn at everything, unless he's got special qualifications for one thing. Clear?"

"Yes, sir, but—"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Why? Because we run this camp, son. The gooks are here to guard us, that's all. We do everything else, which means if we don't do it—or if we do a half-assed job—we suffer. Efficiency is our motto, as long as I'm in charge. Clear?"

"Yes, sir." Puzzlement was in his voice and on his face, but before he could ask the question that had been uppermost in his mind, he heard slippers scraping rapidly on the wooden floor of the hallway.

"That'll be Lieutenant Paek," said the colonel. "He'll take you to Kim."

"Oh." King rose to his feet, then wavered. As he was finding his balance, a round, flat face framed by straight black hair came around the corner of the door. It smiled politely.

The colonel crossed over to take King's hand. "It was good meeting you, Major. We'll talk more at dinner; I'll hold a place for you at my table."

"Yes, sir. Thank you." By the time he got to the door, Paek was holding out his cane. King grunted, "Thanks," and they moved down the hall and out into the winter twilight.

In the middle of a bleak, Western-style office decorated only with a clock, a row of filing cabinets, and a portrait of Kim Il-sung, Captain Kim sat at a battered wooden desk. He was an elderly, gray-haired man with high cheekbones and a soft twinkle in his dark eyes. The stark, drab uniform of the North Korean Army fitted him badly; he wore it rumpled, with the collar open and the tunic unbuttoned over his slight paunch. As he gave a friendly smile and waved King into a straight-backed chair, he looked like a university professor returning from a festive but tiring masquerade ball.

"So good to meet you, Major," he murmured in impeccable English.

"Thank you, Captain." King found that pressing his cane against the side of his chair, close to his body, kept him satisfactorily erect. For some reason that seemed important.

"I have asked you to visit me, Major, because I want to explain something to you." Pausing, he steepled his short fingers and frowned down on them.

"What's that, sir?"

"You are a pilot, Major, and, like all pilots, bound to be something of a romantic. I am sure that as your fever wears away, you will begin to feel that it is your duty to attempt to escape from this camp. Although I cannot alter the way you feel, I can attempt to point out that such behavior would be not only foolish but impossible."

"Oh, really?" inquired King warily.

"Really." Kim leaned back in his swivel chair and laced his fingers across his stomach. A tired expression came and went on his ivory

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

smooth face; he appeared ready to deliver an oft-repeated speech. "In the last war, Major, we discovered that we could control American prisoners easily enough, but that it required a tremendous marshaling of trained personnel on our part and tremendous suffering on yours."

"Excuse me, Captain," interrupted King. His voice was low; it quivered with high tension. "Are you about to threaten me, try to scare me into obedience?"

"Oh, no, Major, not at all!" protested Kim. Dismay clouded his features, and he rocked forward in his chair. Earnestly, he insisted, "No, sir. We have repudiated those methods! They were successful, in the short run, but extremely harmful to our nation in the long run. Only a few fanatics in the Western World ever believed the 'confessions' we obtained, and when the war ended and the truth came out, why, it created a great deal of bitterness that remains to plague us to this day."

"I'd have to agree with that," said King coldly. His face hardened as a vivid image clarified in his mind. It was in his mother's lonely bedroom, on her dressing table. Framed by somber wood, a strong young man smiled at his widow every morning of her life. He had been captured in 1951. One of the survivors of his platoon had reported that he had been beaten to death on a forced march in late 1952, evidently for attempting to escape. "Although, come to think of it, perhaps hatred is closer to it."

"Perhaps, perhaps, but we are not here to talk over old injuries, are we, Major?" He saw King's eyes glitter and he hurried on. "Anyway, that has all changed. Our Chinese friends have perfected a method that allows us to maintain comfortable, escape-proof prisons without the necessity for a high guard-to-prisoner ratio. In fact, this camp has only five guards, which includes Lieutenant Paek and myself."

"What?" King was startled out of his antipathy; he cocked his head to one side and tried to remember the scene in the courtyard. There had been dozens of American POW's, limping around and scuffing at the snow. There had been the obsequious Lieutenant Paek. But uniformed guards . . . had there been any? He saw again the high wire fence that enclosed the cluster of buildings; he visualized the watchtower that stood high above the front gate. There had been one sentry up there, huddled in his greatcoat as he puffed on a cigarette, but others . . . he couldn't recall any.

Kim's eyes glinted with warm amusement as he watched the American think. His air of patient satisfaction made it seem as though he knew what was going through King's mind. He gave him a few seconds more, then said, "Remark-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

able, isn't it? So many prisoners, and so few guards."

"How?" rapped out King.

Before answering, Kim toyed with a pencil. "Do you recall the injection you received shortly after your capture?"

"Injection?" He scratched his jaw and tried to think. He'd awakened in a Korean house, so bruised that he could barely open his eyes. But he had forced them open when a cold needle pierced his arm; he had focused on a slim Army doctor depressing the plunger of a hypodermic. He had wanted to protest; he had tried to wrench his strong brown arm out of the doctor's chill fingers. But the motion had overloaded his pain-racked system and the clouds had gathered him up again. "Yes," he said at last, "Yes, I remember. What about it?"

Something in his tone discomfited the pudgy Korean, who chewed on his underlip and dropped his large eyes. Then he began to explain, choosing his words with care as he repeatedly denied any personal responsibility.

Several years earlier, Communist Chinese CBW researchers had successfully mutated the virus that causes poliomyelitis. The new disease, as yet without a Western name because its existence was a carefully controlled secret, settled in the spinal cord and particularly in the voluntary nervous system. Heart, lungs, and other aspects of the autonomic system were generally unimpaired, but those nerves which transmitted conscious messages had their capacities cut to a fraction of what they had been. The results were astonishing. Victims of the disease found their strength sapped by as much as ninety percent; some were so enfeebled that they became incapable of self-locomotion even with the use of crutches and guide rails.

Field tests carried out among dissident cadres in Sinkiang and Inner Mongolia helped the researchers to select the most effective strain of the virus. Those infected with this particular form of the disease were able to fend for themselves under normal conditions, as long as they were not required to lift or move heavy weights. Because of this, the Party reluctantly decided it was unsuitable for members of forced labor battalions, who were expected to exert every ounce of their strength for the State. But it was considered perfect for maximum security prisons, and other institutions where one could assume that nonproductive prisoners would make every attempt to escape. Like POW camps. What made it especially attractive was that it was virtually noncommunicable, because the virus required continuous immersion in a liquid medium. Exposed to conditions drier than the bloodstream, it died immediately.

His eyes on the American's set jaw and grim scowl, Kim finished with another disclaimer of responsi-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

bility, sighed heavily, and waited for the inevitable reaction.

It was long in coming. King was stunned. If Kim was right, each POW was fettered more effectively than if he were wearing a ball and chain. Those, at least, could be filed away, leaving the prisoner a free man. But this, if it were true, was a ball and chain welded to each cell of every muscle. And how the hell could you get a file in there? A frightening thought came to him, and he choked out the words, "Is it progressive?"

"Progressive?" For a moment, the commandant appeared bewildered. Then he smiled and said, "Not at all. That would be inhumane! You are as weak now as you will ever be. They told me that the virus, ah, 'population' increases rapidly for perhaps twelve hours, then fluctuates for several days—which causes the fever you are now experiencing—before stabilizing."

King shivered and wiped cold sweat from his forehead. "Is it curable?" he asked hesitantly.

"Of course, Major." Again he gave a reassuring smile. "Naturally, the antidote, or antibiotic, or whatever, exists only in China. When the war is over, and you are about to be exchanged, you will be given another injection to cure you." He glanced over to the large clock on the wall and raised his eyebrows. "My, my," he said in surprise, "it is almost mealtime. Let me condense my advice. Please, Major, do not try to escape. You do not have the strength, either to get outside this camp or to make your way through a Korean winter back to your own lines. I know this may be hard for a man of your race to under—"

King bristled instantly. "What the hell do you mean by that?" he snarled, forgetting his fear and his exhaustion.

The smile came a third time, this time paternal and condescending. "It is well known that Negroes are a physical race, as opposed to a mental race. Scientists have proved that your people are not, well, let us say accustomed to dispassionate consideration of all factors involved in a problem. That is why the African nations—and the American blacks—produce such wonderful athletes, and such poor leaders. I just—"

King pressed down hard on his cane and launched himself to his feet. While he struggled not to wobble, he noted with satisfaction that fear had infused the face looking up at him. Taking a deep breath, he found a tight, even voice and said, "I'm leaving before I get violent. That would only prove your point, and I warn you, I'm going to do the exact opposite." He clomped heavily across the floor and rested his hand on the doorknob. "Of course, if you hand me that crap one more time, you just might get me believing it, too." He slammed the door behind him as he left; a fierce determination coa-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

lesced in his mind. He would escape.

The struggle across the windswept courtyard cooled most of his anger, but enough remained in his face to catch Hoefler's attention immediately. The colonel said nothing about it while they waited to be served their meal, and after he had guided King to a small table in the corner of the large, unheated dining room, he gave it more time to dissipate by explaining the source of the food. King had heard it all already, back at Osan Air Base, but he listened attentively anyway.

Part of the North Korean strategy, learned from the North Vietnamese, was to neutralize the American public's hostility by treating POW's as well as it could. It had announced, shortly after the first US flier had been shot down, that it would permit the US Government to supply all prisoners with American food and daily necessities so that there could be no question of their health deteriorating during their incarceration. It had, of course, neglected to describe how it had hamstrung the downed fliers.

The American public was taken by the idea; general clamor had forced the Administration's reluctant consent. Once a month, supplies for all listed POW's, plus twenty percent for possible future prisoners, sailed into the Korean port of Wonsan on a ship flying the International Red Cross flag. The supplies and incoming packages were handed over to the North Korean Red Cross, which to date had provided scrupulously honest distribution.

In direct consequence, King had just sat down to a meal of canned ham, mashed potatoes, and frenchcut green beans. Hoefler assured him that if he were still hungry after eating, he could go back for as many more helpings as he wanted. "Ain't it nice to know that pragmatic political manipulation can sometimes feel just like mother love, Major?"

"Yeah," he growled. "Too bad that's not the way they really feel about us. Or at least about some of us."

Hoefler sighed; he didn't like discussing the emotional aspects of camp life until after dinner, but it was obvious he could put it off no longer. "What's got your goat, Major? A run-in with Kim?"

"Yeah." He scooped watery potatoes onto his spoon and poured them into his mouth. After an experimental chew, he made a face. "Captain Kim and George Wallace would have gotten along just fine together. Their ideas are downright similar."

The colonel chuckled and relaxed. This was something he could handle. "On the surface," he drawled, "it might just seem that way. But the Guv'nor'd have gotten a pretty nasty shock as soon as he

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

found out the captain figured him to be inferior, too."

Interested despite himself, King looked up from his food. "What's that you say?"

"In the Korean theory of evolution," explained Hoefler, using his knife to cut three circles in the air, one below the other, "the Asian is the most highly evolved human being, and therefore the most superior. The white man, with his veritable forest of body hair, is clearly more an animal, although not as much as the black man, who hasn't gotten far enough along to shed his color."

"You're putting me on, Colonel." A hint of a smile touched his face. "They can't really believe that!"

"Not all of 'em, and you'll never find a biologist who believes it publicly, but . . ." he shrugged and tested his beans. "The uneducated people, especially, seem to take pleasure in thinking that they're better than us Westerners. They're not so subtle about it; they'll call you 'monkey' on the streets." He caught the quick spark in King's eye and said, "Whoa! Before you go getting hot under that collar of yours, me and every other white man who's walked down a Korean street in broad daylight has been called that, too. Didn't you ever hear it?"

"Nope." Wishing he hadn't been touchy, he added, "This is my first tour in Asia. I'd only been here three weeks, and I'd spent the whole time either in the air or on the base. Now I sort of regret it." He flashed a quick, sardonic smile. "It wouldn've been sweet to see you all getting discriminated against, you know?"

Hoefler laughed again, an easy, comfortable laugh arising from deep in his chest. Shaking his head in amusement and relief, he said nothing more and attacked his food.

When they had finished, a lieutenant brought over a pot of coffee on a tray. It was flanked by large jars of sugar and condensed milk. The steam rose high in the cold air as the colonel topped off their cups. "Cream and sugar're there if you want 'em. Now tell me, how did you like the cooking?"

King scraped the surface of his empty plate with his fork, then looked up. "Colonel," he answered with a wry grin, "I suppose I've eaten worse, but, to tell the truth, I just can't seem to remember when. The way they spoiled this dinner is a crying shame. Was it par for the course?"

"'Fraid so, Major." He carefully measured three heaping teaspoons of sugar into his cup. "Wait'll you see what they did to the coffee—now *that's* a shame!" A cigarette appeared in his hand; he lit it and took a long puff.

Slouching deep in his chair, the major feigned mournfulness. "They'll kill me if they keep it up. Why don't you tell them to cook

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

up some Korean food? Bet they do that a damn sight better."

Hoefler cocked his head as he tried to catch King's meaning; after a moment, his eyebrows rose. "Major," he said in a tone of faint reproof, "I thought I told you that *we* do all the work around here. That food wasn't ruined by Koreans, it was ruined by us."

"We cook, too? They let us play around with knives?"

"We do everything in this camp except stand guard duty," said Hoefler with a perfectly straight face, "and I'm negotiating for that right now. Let's face it—they've got no respect for us. If you had a machine gun, would you be afraid of a little kid with a knife?"

King's expression darkened as he remembered Captain Kim's hearty, patronizing voice. The thought of swallowing such condescension for the duration tightened a knot in his stomach; he silently repeated his vow to escape. Then he became aware of Hoefler's scrutiny. He knew that he could never make this white Southerner understand how being deemed harmless corroded a man, how it drove him either into empty impotence or into one last act of mad bravado. You had to have seen it happen to your father's friends, and yours, too. So he forced a laugh and said, "Well, crap—uh, beg pardon, Colonel—you'd think those all American boys could have done better." He scowled at his plate and pushed it away. "I could do better blindfolded."

"You could?"

"Sure enough." He glanced up sharply, unsure of Hoefler's tone. "I'm not pulling your leg, Colonel. I helped pay my way through school by working in dining halls—in fact, I was manager of one."

Hoefler mashed his cigarette out on his plate and put his elbows on the table. "You figure you could run this one here?"

"Sure," replied King with a confident wave of his hand. "Give me, oh, two permanent cooks, a couple of dishwashers, and some servers. Inside two weeks I'll have it running smooth as smooth can be."

Hoefler finished his coffee as he considered the offer. "You turn out edible food, Major, and I'll bet my bottom dollar nobody'll complain if I post you here full-time."

"Good. Do I start tomorrow?"

"Nope." He saw that King had taken it as a rebuff, and quickly soothed him. "I told you, you're number three. Before you go into the kitchen, I want you to learn about everything else. Absolutely everything. I'll give you a week; I reckon that ought to be enough. Then you can take over here."

The first day King was sent to the mailroom, where he found a bored Lieutenant Jackson censoring letters. Bemused, he asked why it was necessary for the letters to be censored by an American officer.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"We'll, I'll tell you," yawned the lieutenant as he put his pen down. "I'm only supposed to decide whether the Korean censors will forward it or throw it out. If I know one won't be allowed to pass, I give it back to the guy who wrote it and suggest he rephrase it."

"What's taboo?"

Jackson's sigh ended in a weary chuckle. "A lot. Criticism of anything Korean. Mention of the location of the camp, even in general. Describing the weather on specific dates."

"Why that?"

"So nobody can figure out where we are by comparing our references to weather with the weather patterns of the peninsula. See, if they—"

"Right, right," said King, holding up a hand. "I see what you mean."

"And finally, of course, it's absolutely *verboten* to mention any kind of physical ailment. The gooks don't want anybody out there to know about the disease just yet. Can't say I blame them; there'll be hell to pay when the world finds out."

By the end of the day, King had learned that mail arrived once a week, with the helicopter that brought new prisoners. He had heard little else of interest, except that Jackson had been doing calisthenics since his capture four months earlier and had yet to increase his strength by any discernible amount.

The secret of the warm floors, which had puzzled him for some time, was explained the next morning. Captain Schwartz took him behind one of the buildings and showed him the small, stovelike arrangement beneath it. Next to it was a neat stack of large black cylinders, each with thirteen holes drilled through it lengthwise.

"To explain it quickly, Major, the floors, called *ondol* floors, are covered with dozens of layers of varnished rice paper. Underneath is a foot or so of clay with a tunnel in it. The tunnel winds through the clay like this"—he sketched an "S" in the cold morning air with one numb finger—"with one end starting here, where we burn the *yuntans,* and the other end running to the stove pipe on the other side of the building."

He squatted down, opened the rusted metal door, and reached for the pair of long-handled tongs which leaned against the side of the furnace. "This is a little tricky here, so squirm around to where you can watch me."

King obliged. As he peered over Schwartz' shoulder, heat hit his face with welcome, but acrid, hands. For fifteen minutes he watched with growing resentment as the blond-haired captain struggled to remove and replace one five-pound charcoal cylinder. Finally it was in place, and Schwartz gasped out the rest of the instructions.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Now we close the door." He rocked back to his heels. "And pant for a while," he added with a crooked smile. "Each building has two furnaces. One for the floor. One for the water. The Koreans have come up with enough coal. We keep them both going at all times. Got it?"

King looked at the captain's heaving shoulders and tasted rage at the way they were being forced to use strength that had been stolen from them. "Yeah," he mumbled, "yeah, I think so."

A new locale has a tendency to seem larger than it really is; in the confusion generated by trying to navigate in strange surroundings, one doesn't realize that what lies around the next corner is already well known. Instead, it's *terra incognita*, and remains that way for some time. But as the blanks on the map begin to be filled in, the newcomer feels the boundaries grow closer and wonders why the once-spacious place is now so cramped.

Moving with the garbage detail the next day, King took his first walk around the perimeter. He was astonished by how small it really was. The twelve-foot-high chain-link fence, topped with four strands of barbed wire, didn't run much more than one hundred feet on a side. But in his condition, he admitted ruefully, even that was too much. Exhausted from carrying ten pounds of tin cans and kitchen scraps, he leaned against the shiny metal and wondered aloud why the Koreans had bothered to erect it. "I mean, hell," he gasped to the lieutenant in charge of the detail, "there's just no way any of us could climb this mother. Feeling the way I do, I couldn't make it over one-half this size."

"It's psychological," explained the lieutenant, leaning on his cane with his back to the wind. "Put up a six-footer and somebody's going to try to scramble over it. A six-footer is something I can imagine making. But a twelve-footer? *That* creates an inferiority complex: one look and I know I can't do it, so I never try. It carries over; I start feeling that way about other ways out. Great psychology."

King looked up. A piece of paper, carried by the wind until it had been snagged by a barb, fluttered weakly. "You think they planned it that way?"

"Course they did. Look at the guardpost." He pointed to the other end of camp. "The floor's fifteen feet off the ground, straight up that ladder. Just getting up it is the deterrent—as far as I know, everybody in camp figures he could take that guard, *if* he could sneak up on him. But nobody figures he could sneak up that ladder. Psychological, all psychological." He spat in disgust.

"Got any other reason for thinking that way?" probed King.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Sure." He hawked and spat again. "Wait'll you hear Kim's once-a-month speech. First day of every month. I've heard three now; they're all the same. Different words, but the same message. Lemme see." He scratched his head and stared up into the high, blue sky. "The general theme is, don't worry about anything, we'll take care of you, just like we take care of orphans and mental defectives. He said, what was it, uh, 'As pilots of giant warplanes, you were insidious enemies; as helpless captives, you are objects of compassion.' Yeah, that was it. 'Helpless captives.' Nice line, huh?"

"Uh-huh." He kicked at a bare patch of iron-hard soil, cleared by the bitter wind. "One thing I don't get. If they want us to feel helpless, why do they make us take care of ourselves? I mean, doesn't all this"—he waved his hands vaguely for a moment, then pointed to the garbage bag he had been carrying—"doesn't it all prove that we're *not* helpless?"

The lieutenant looked directly into King's eyes and laughed. Then he said, "Answer me two questions, Major?"

"Sure."

"How heavy is that bag?"

King shrugged. "Ten pounds, maybe."

"And how easy was it to carry?"

The major sagged against the fence. "Yeah," he breathed at last, "yeah, I see what you mean."

Colonel Hoefler reinforced the lieutenant's analysis over dinner. Sipping at his syrupy coffee, he conceded that every officer understood the North Koreans' intentions, but denied that this awareness should nullify their captors' psychological strategy. "I'll tell you, Major," he explained, pausing to draw on his cigarette, "it'd be different if we thought they were trying to *convince* us that we're physically inferior now. Then we could fight back, show them—and ourselves—that we're not. But that's not what they're trying to do, not by a long shot. They're just trying to *remind* us of an obvious fact. They don't want us to forget it, that's all. See my point?"

"Sort of," grunted King. He was slouched in his chair, and in his large brown eyes resignation deepened. "But I don't know *how* weak I am—or we are."

"Gonna have to prove that to yourself, son." He poured himself more coffee and smiled. "Just like everyone else did."

King's interest was momentarily rekindled. "How?" he demanded. "How did everyone else do it?"

"Lots of ways. My first week here was spent in the excavation of two feet of tunnel. Then I sat down and calculated I'd have to dig another hundred yards, at least—and I reckoned I just didn't have the heart to go on digging for three years. Schwartz, he figured he'd hitch a ride on the deuce-and-a-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

half that brings supplies once a month; we staged a diversion and he swung himself up underneath. Fell off five feet later; didn't have the strength to hold on. Others, well, they've tried to climb that damn fence, or cut holes in it, or squeeze underneath . . ." he shook his head, more in amusement than in sorrow, before continuing, "nobody's ever made it. Nobody's got the strength."

As King's spirits slumped, he was almost ready to concede that he had been hasty, far too hasty, in resolving to escape. Everything he had seen in the last few days had encouraged him to consider it impossible. The guards, though few, were heavily armed. The other officers, to a man, were pessimistic. The only path down the mountain that a crippled man could negotiate led directly through an NKA missile site. Even if he could get past that, he would have to pass through a sea of hostile faces, in which his own face would be all too . . . the sea. That was closer. If he could get that far, he could steal a boat and . . . boat? Ship? Sea? There were ships out on that sea. Big ships. Aircraft carriers, with rescue helicopters and fighter-bombers for support, and medics and Marines and "Colonel," he said slowly, fighting to suppress the excitement he was feeling, "it seems all your attempts have been to get people out. You ever tried to get people *in*?"

Hoefler's blank stare was answer enough.

"That's what I thought!" The words rolled out on a wave of triumph. King pushed his dishes aside and leaned across the table; instinctively, he glanced around the noisy dining room before continuing in a low voice, "Look, it's out and out impossible for us to escape, to make it through the NK lines back to our side, but—why bother? This camp is defenseless. If we could let Seoul know where we are, they could have a rescue mission here in no time. All we need is a radio."

Rubbing his jaw thoughtfully, Hoefler leaned back and contemplated the idea. Then he sighed and shook his head. "I don't rightly know, Major. This camp's only got but one radio; that's locked in a metal cabinet in Kim's office."

"So we jump him," interrupted the major, "and we take the key from him, open the cabinet, and call Seoul."

"No dice." Hoefler sat up and stubbed his cigarette out with an impatient movement. "First, it's a combination lock. Kim won't willingly reveal the numbers, and I don't think we have the strength or the stomach to force them out of him. Second, that still leaves four armed soldiers roaming around—we can't possibly take care of them, too, and I reckon they'd be bound to notice us. Nope, it won't work out." He stood up suddenly, as

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

though anxious to flee from something distasteful, but he tarried to add a few words. "Look, son, you think about it, and I'll think about it. Maybe we can figure out a better way. In the meantime, I'd appreciate it if you didn't mention it to anyone else. Don't want to raise any false hopes."

"Sure, Colonel." His head drooped and he stared dispiritedly at the tabletop. "If you say so."

"I do." He put his hand on King's shoulder and squeezed lightly. "Don't let it get you down. You've got the start of a good idea. You keep thinking on it, and an answer'll come to you, sooner or later."

"Yeah, right." He kept his eyes averted until the colonel had left. Then, with savage intensity, he slammed his hand onto the table and cursed.

By the time King took over the kitchen, his morale had bottomed out. As he stood in the grimy, drafty, ten-by-twenty room where the food was prepared and cooked, and where the pots, pans, and plates were washed, dried, and stored, he felt like giving up. The war seemed likely to grind on forever, and if the other inmates' attitudes were rational, he would spend that forever shivering on a North Korean mountainside.

He looked around the tiny room and shuddered. It was windowless, but glare from the snow outside skidded into it through a dozen horizontal gaps between the boards of the wall. A small fluorescent bulb overhead tried gamely to reach the areas left shadowed by the outside light, and failed. The wooden floor was hard to see clearly, but as he paced he could feel things grating beneath his sole. The area near the stove was spattered with rancid grease, which mixed its odor with the smells of rotting vegetables and harshly burning charcoal.

Regretting that he had volunteered to take charge, he stalked across the narrow room and examined the disorderly shelves of pots and pans. After shaking his head in exasperation, he leaned his cane against the wall, took a pot in both hands, and subjected it to the most intense scrutiny he could manage in the dim light. Its outside was burned black; bits of charred food stuck to the inside. His finger drew a line in the thin film of grease that coated the bottom. Then he threw it back on the shelf with a crash and stormed out.

Five minutes later he led back a crew of men drafted from the loungers outside. One was put to work flattening tin cans; another was given hammer and nails and told to seal the wall with the resulting strips of metal. A third was assigned to cut a small ventilating hole in the outer wall near the ceiling; a fourth was ordered to find and install better lighting. The rest

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

were shown the brushes and the soap, and were informed that any dirt left on the floor would wind up in their dinners. King himself stood in the doorway, one shoulder resting on the door frame, and maintained a steady flow of critical encouragement.

When the cooks drifted in around eleven to begin preparing the standard lunch of cold cuts and soup, the kitchen was a brighter, cleaner place. King dismissed the work crew with a satisfied nod and turned his attention to the cooks.

"All right," he ordered, "let's see your hands."

Bewildered, the two officers tucked their walking sticks under their arms and held out their hands. King's eyes fastened on the black deposits under their fingernails, and he snarled, "What do you think you're trying to do, get everybody sick or something? Get over to that hot water and scrape those hands till they're pink. I mean it! If I ever catch you with even a drop of oil on your hands again, I'll have you as the main course on the menu. Now git!" He glared at their retreating backs, muttering, "Whole damn camp could come down with—" He stopped suddenly, and his eyes rolled up to the ceiling. A light began to glow in them, and a jubilant smile started to spread across his face. "Sick. Infection. Oh, frabjous day," he whispered happily, "oh, frabjous day!"

At lunch he cornered the colonel, and brushed away his compliments on the coffee with a quick, "Aw, just about anything tastes better coming out of a clean kitchen." He waited for Hoefler to finish pouring his second cup, then could contain himself no longer. "Colonel, I got three questions, and if you have the right answers, we're on our way home."

"You don't give up easily, do you?" smiled the colonel. "Fire away. If I know the answers, you'll get 'em."

"Right on. First, when that helicopter comes every Friday, do they always make us unload it?"

"Yup. Every Friday. But nobody here's got the strength to fly it, if that's what you're thinking."

"It's not. Second. Does it have a radio that could reach Seoul, and could somebody here in the camp operate that radio if he got his hands on it?"

"That's two questions, but yes to both." He put his elbows on the table and examined King's bright eyes. "You're not thinking of making a try for the chopper, are you? That guy in the guardpost will gun you down, no questions asked."

"Don't worry about that just yet," advised King. "Third. Where do the gooks eat?"

"In their quarters," shrugged the colonel, completely mystified. "They prepare their own NKA field rations."

"Nuts!" He snapped his fingers

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

and grimaced. "That screws up my—look, Colonel, you think you could get them to eat here with us?"

Before answering, Hoefler posed one question of his own. "Are you figuring on poisoning them, Major?"

"Yeah." His smile was hungry and nearly inhuman.

"But you'll also—"

"Nope." The smile that thinned his lips and bared his teeth became even more fiendish as he shook his head. "That I won't, Colonel, that I won't."

"But they're going to suspect poison, and they'll demand to serve themselves, out of the common—"

"That won't make no never mind," drawled King in delight. "They can serve themselves all they like, so long as they eat Thursday lunch with us. Can you do it?"

"Well . . ." He inclined his head to one side, and studied his junior officer uncertainly. "Tell me your plan, Major, and then I'll tell you if I can do it."

King hunched forward over the table and in a low, rapid voice outlined the scheme. Half a preacher, half a con man, he had his listener grinning broadly when he finished.

"Damn!" said the colonel, slapping his thigh. "Damn, but that's good!"

"You just tell him, we'll mix their rations in with ours, and his boys can eat their fill. Tell him we got more than enough, and that we don't want the guards to get irritable out of jealousy. Tell him I'm all set to start tonight."

Kim was suspicious, but the lure of three full meals daily, for his men and for himself, was strong. He consulted the booklet of standing orders which held a prominent place on his bookshelf, and found nothing to forbid him. Then he frowned, shifted in his chair, and stared directly at the American colonel, as if trying to read his mind.

"I don't understand, Colonel," he said again, somewhat petulantly. "Why this sudden generosity?"

"Pretty simple, Cap'n. Your boys've been getting a mite edgy, which is understandable, since they're cold and hungry most of the time. Each of 'em does a full eight hours up on the watchtower, and has to take care of his meals before and after that. Major King figured it'd make 'em a lot happier, and less trigger-happy, if we did that work for 'em. Shoot, Cap'n, we've got nothing but time on our hands. And five extra are no work at all. What do you say?"

"You could be trying to poison us," mused Kim, "but in that event you would be poisoning those of your men who ate the same meal, and I can hardly believe you to be that ruthless."

"No, sir," intoned Hoefler solemnly. "We're not."

A cagey look came onto the Ko-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

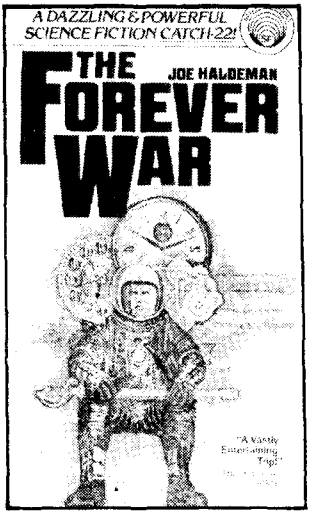
A DAZZLING & POWERFUL SCIENCE FICTION CATCH-22!

Major Mandella hadn't wanted to go to war but he did... for 1200 years!

"A VASTLY ENTERTAINING TRIP!"
The New York Times

"TIME HAS NEVER SEEMED SO REAL IN A SCIENCE-FICTION NOVEL..."
Chicago Daily News

One of the year's most highly acclaimed SF tales



$1.50
Ballantine Books

rean's face. "Will you also allow us to partake of your canned fruits?"

"Why, sure." He managed to look both surprised and mildly offended. "I told you, you eat what we eat. Everything."

Kim thought about it for a moment longer. With his caution dulled by the obvious harmlessness of the cane-dependent man before him, he could not imagine the POW's posing any possible threat. Confidence and a sharpened appetite convinced him. "Fine. Then I consent. Inform your Major King that he will have five extra for dinner."

The meal went well, as did those that followed. Even though the three Korean privates found American food strange at first, the convenience of the mess hall outweighed the difficulty they experienced in adjusting. And for the first time since the cold weather had deprived them of most fresh vegetables, they were able to eat enough. They gave contented nods to the staff as they left, and King breathed a little easier.

"It's working," he informed Hoefler after two days. "They're not so suspicious anymore, and one takes out a plate to his buddy up in the watchtower. Today's Wednesday; we might as well try it tomorrow. If it doesn't work, no harm is done, because they'll never notice. If it does work—Friday af-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ternoon we'll be on our way home."

Captain Kim was in an excellent mood after Thursday lunch. When he went back into the kitchen to congratulate King on the meal. He found him sitting on a stool in the corner, head in hands.

"My dear Major King," he purred, "are you ill?"

King raised his head and forced a smile. His skin seemed grayer than usual, and some of the sparkle was gone from his eyes. "No, sir," he said, rising unsteadily to his feet. "I was just trying to get one of the *yuntans* lit; I had to blow on it pretty hard and I got a little dizzy. I'll be all right in a few minutes."

"Well, that's good to hear," said Kim heartily. "For a moment, I was afraid we were about to lose the man who planned that wonderful meal."

"Oh, did you like it?" murmured King politely.

"Yes, especially the soup. What is it called?"

"Borscht," he said absently. His eyes were on the men who were washing the plates. "It's a soup made from beets and cabbages, which is why I thought you and your men might like it. I understand you eat a lot of them?"

"Oh, my, yes, we do. Tell me, why was it served cold? Is that customary?"

"It can be served either way," explained King, "but since we served hot sandwiches, I thought it might be nice to have a cold soup. I was getting a little bored with steaming hot bowls of soup twice a day."

"I understand." He nodded sententiously, and then glanced at King's hand. "Did you cut yourself?" he asked, pointing at the bandage on King's finger.

"Huh?" He looked down, and then brought up his hand. "Oh, this? No. I burned it last night. Occupational hazard, it's even more common than cuts. It'll be OK in a day or two." He looked across the room. "Excuse me, sir. I have to chew out the dishwasher."

"Certainly, certainly," Kim said cheerily. He walked to the door, gave a last wave, and strolled away whistling.

Fifty pairs of eyes peered through the gloom to follow the flashlight-carrying guard who was starting the midnight to eight watch. Head bent against the wind, he trudged through the ankle deep snow until he came to the ladder. He slung his rifle over his shoulder and scampered up. A moment later, the one who had been relieved dropped down, and scooted across the courtyard to the relative warmth of his quarters.

"It's not working," muttered Schwartz through clenched teeth. He shut the front door and turned to face King, who stood directly

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

behind him. "It's not working! They looked perfectly normal."

"Course they did," grunted the major. "That's the whole idea. Remember, it takes twelve to fifteen hours, and lunch was served at one o'clock. Right?"

"Sure, but you'd think—"

"And you'd be wrong." He wheeled about in the hall, using his cane as a pivot, and limped into the room that served as their living room/bedroom. "If I thought that, I never would have tried it. It's gotta start when four of them are asleep. Especially Kim. He can't be anywhere near his radio."

"All right, all right, you win. What time's the chopper due?"

"About nine. We'll know by then how effective it was. If Kim shows up for breakfast at eight, all bright-eyed and bushy-tailed, and if the sentry comes bouncing out of the barracks, then we know it didn't work. But if we're the only ones moving—gangway!"

The night was long and fifty American pilots made it longer by constant inspections of their watches. A card game gave some distraction to those who were willing to play for IOU's but the rest huddled in tight knots and asked the same questions over and over:

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Would it work? Would it stop snowing? If it didn't would the chopper come anyway? What would they do if–

The mess hall opened for breakfast at 7:30, and for the first time in memory every POW was present. Not a single man lay snoring on his mat, preferring to pass up a breakfast of hot cereal and coffee for a precious extra hour of the oblivion of sleep.

But they paid little attention to their meal; all eyes were fastened on the door through which Captain Kim might come bustling at the stroke of eight. Cigarette smoke hung heavy in the charged air and stung eyes reddened by lack of sleep.

At 7:45 King had a thought. "Colonel," he called as he crossed the room, "what happens if Kim tries to make it to the radio? Could he drag himself that far?"

Hoefler looked startled, and dispatched two men to stand in the hall of the office building. They were told to block Kim if and only if he seemed to have begun to succumb.

At 8:05, the short, dark-haired Lieutenant Jackson dragged himself up the ladder to the watchtower. He took the hat and the greatcoat of the guard who lay feverish on the floor, then he pushed the incoherently mumbling man out the open trapdoor into the waiting arms of the other POW's. Once uniformed, and looking as Korean as possible, he settled into position behind the machine gun.

By 8:10, a group led by Captain Schwartz had managed to break into the quarters of the other two guards. Moving as swiftly as their condition would permit, they pulled the semiconscious men into a corner and removed all weapons. A few minutes later, Colonel Hoefler and another group brought in Captain Kim and Lieutenant Paek; they joined the two in the corner and a blanket was drawn over their twitching forms.

At 8:30, King changed the bandage on his severely lacerated finger and applied more iodine. While he wrapped clean white gauze around it, he wondered how long it would take his crippled body to replace the pint of virus-teeming blood he had carefully dripped into the borscht. "Lucky thing that disease plateaus out the way it does," he chuckled to no one in particular. "It might have affected us! Hey, I wonder if I ought to leave Captain Kim a note, let him know how 'physical' I was." He laughed aloud as he taped the bandage.

At 8:45, Colonel Hoefler and Captain Schwartz tested the revolvers they would use on the unsuspecting pilot and the medic/guard when the Americans went out to unload the helicopter. The triggers were stiff but pullable. The other prisoners heard the two sharp reports and, with an anticipatory growl, settled down to wait. ■

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the reference library

Lester del Rey

POTPOURRI

The bulk of television fare equates fairly closely with what was known as the pulp categories of printed fiction. It teems with westerns, detective stories, and whatnots; even the daytime soap operas are emotionally related to the old confession magazines. But with one outstanding exception, network television has failed with its attempts to use the category of science fiction.

Star Trek, however, has proved to be a highly viable crossbreed, by TV out of SF. Like the science fiction magazines, it goes on merrily after the rest of its kind have been forgotten. It has even developed a true fandom that grows with each season, holding conventions where thousands of fans congregate; most of them are fairly young—but so were the SF fans back in the early days.

The reason for its success, as I see it, is that *Star Trek* is genuine science fiction in its spirit and general development; most other TV attempts at science fiction have imitated the gadgetry but violated the general feeling of the literature. *Star Trek* may be simplistic at times, and the science tends to be based more on gadgetry than the development of theories. But the series has a concept of the future that works; there is a history and a generally consistent background behind it, complete with cultures—human and otherwise—and technological changes that seem at least possible.

So far, there have been eleven books from the original series published by Bantam and written by James Blish. And Ballantine has had Alan Dean Foster do five books from the animated series. All have enjoyed sales that would delight any writer of regular science fiction. The books aren't exactly great literature—but then, neither was our own Captain Future!

But the real appeal of *Star Trek* is probably better explained by the latest project to be published. This is the **Star Fleet Technical Manual,** "researched and compiled by" Franz Joseph (Ballantine Books, $6.95, 192 pp.). Joseph is the engineer responsible for the earlier set of blueprints that showed every detail of the SS *Enterprise*, and was responsible for the entire design of the manual.

This has to be seen to be believed. It could well be a genuine manual from a future military service; it represents exactly the type of detailed information to be found in manuals issued by every government, from the type of insigne to be worn on regulation uniforms to

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

recognition patterns for enemy craft. There are official alphabets, detailed ship layouts, and everything that any fan could want to know. With such a manual, any ship's officer would know precisely what the details of his job might be. There is even the schematic for the transceiver used by the exploration teams.

I'd strongly recommend that writers of science fiction get a copy and study it. This is an example of how a background for fiction can be developed, of how many little things can go together to establish reality. Of course, this was done after the stories were already written, but the fact that it could be done at all indicates how well Gene Roddenberry established his basics for the television series. (Needless to say, Roddenberry was a reader of science fiction.) Many of the details do not appear in the stories—but they lie behind what does appear. And that is the mark of good science fiction at all times; it has an implication of far more detail than can be developed directly.

It's a most remarkable book in many ways.

Recently, there has been another attempt to transport science fiction to the screen which is currently being shown by many stations around the country. I'm afraid that it demonstrates the total inability of television producers to learn anything from a good example. This is *Space: 1999*, based on the idea that a small community on the Moon can be blasted away from Earth to encounter all kinds of adventures. Its "science" may well be the worst ever demonstrated on TV. As a minor example, the far side of the Moon is referred to repeatedly as the "dark" side. (There is also a black sun later in the series, presumably to illuminate the dark side of the Moon.)

Naturally, books detailing the series have been rushed into print. The latest of these is **The Space Guardians,** by Brian Ball (Pocket Books, $1.50, 142 pp.), covering three episodes of the television series.

The basic ideas in the three have a certain philosophical quality that might be summed up as: progress is sterile; aliens are monsters; and machinery is basically evil. And behind everything is the concept that science and facts should never be considered. Halfway through the book, our runaway Moon is at the edge of our galaxy, 30,000 light-years from Earth. Now the original episode showed an acceleration of maybe ten gravities for no more than 15 minutes; more would have killed everyone, anyhow. I was taught that velocity in feet per second equals time in seconds multiplied by acceleration in feet per second, which gives 288,000 feet per second—or 55 miles per second. Hence, it would take the Moon 3,400 years to go one light-year, or a hundred million years to reach the edge of the galaxy. Oh, I understand there's a flanged-up time-slip or something to explain this in some episode of the series; but that won't wash, since the Moon seems to linger in the vicinity of another world for days whenever it suits the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

plot, so 55 miles per second is still the maximum we can accept.

The writing, characterization and suspense are fully equal to the accuracy of the stories. In fact, this is an outstanding example of anti-science anti-fiction. Horrible!

I don't normally cover re-issues of books, but some deserve mention. A novel or collection that is twenty years old may be unknown to most of the SF audience, and some of such books deserve attention. One of the nice things about the field is the fact that the best of our past has an excellent chance of periodic re-issue.

No Blade of Grass, by John Christopher (Equinox, $1.95, 190 pp.) may be the best of the "British disaster" type of science fiction, classically exemplified by H. G. Wells' *War of the Worlds.* Here the disaster is a virus that attacks all grass, including the cereals that provide food for most of mankind. As in all the best of such stories, the disaster is revealed by its effects on a small group of people who try to flee to a place where they may find continued existence possible during the rioting of the famished peoples and the death of most life on Earth. It's a quietly grim story, excellently detailed, as good today as when it was first serialized in *The Saturday Evening Post.*

Equinox is also responsible for bringing back **A Mirror for Observers,** by Edgar Pangborn ($1.95, 222 pp.). Pangborn writes much too infrequently, but he is one of the best in the field. His characters are always fully drawn and believable, and never more so than in this novel.

The idea is one that has been used often: Aliens are living among us. But there is no terrible danger here. The Martians were forced to flee to Earth some 30,000 years ago, and they now live in hiding on Earth, waiting hopefully for the day when they can emerge—for a time when mankind is adult enough to accept them. Meantime, they observe us.

A few of those Observers, however, have grown cynical and bitter; they are trying to find ways to pervert and destroy mankind. Against the machinations of one such evil Observer, Elmis is sent to observe and thwart any attempt against humanity.

The story of his long exile from his people and of the humans he finds is one of the most warmly sympathetic novels of the field. I can't recommend it too highly.

Once upon a time, there were almost no books of science fiction being published. Then came 1946, and an anthology that may well have been the one thing that convinced major publishers that there was profit and merit in the category. Certainly that anthology was a milestone of major importance to the field.

Anyhow, **Adventures in Time & Space,** edited by Raymond J. Healy and J. Francis McComas (Ballantine, $4.95, 997 pp.) is back in print. This is a huge book, running to about half a million words, the equivalent of eight full-length novels. It has 35 stories, some of them

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

long novellas, from much of the Golden Age of science fiction.

When this book was first planned, the editors had the entire field of science fiction during its first twenty years upon which to draw. Because almost no stories had ever been reprinted, they were able to choose solely on the basis of merit. Since then, no anthologist has had the same freedom. The result was pretty much every reader's dream of what great science fiction was.

For twenty-five years, I used the book as an example when I wanted to persuade someone that science fiction was worth reading. I must have purchased more than twenty copies during that time, but it was worth the cost; most of those who read the volume became confirmed readers of science fiction.

It's still a marvelous collection of great stories, and it should unquestionably be used in every school which is teaching science fiction. It's also a well-produced book, legibly offset from the original, with margins wide enough to make no difficulty in reading. If you don't have a copy of the original hardcover, buy it now. Personally, I intend to stock up extra copies for future lending.

The Science Fiction Book Club Fall 1975 selection is **Three to Dorsai,** by Gordon R. Dickson (Club price, $3.50, 532 pp.) This is a collection of the three novels Dickson has written in the Dorsai series, and a very welcome chance to get everything in one volume, as well as a bargain.

It also includes Dickson's introduction, in which he tells of the intended scope of the total work, which is to include a dozen novels eventually, as well as having interludes from later works in his grand design. Here is *Necromancer*, long hard to find, which sets up the basic situation for the later novels. Of the three novels included, I find this the weakest; some of my friends disagree, however. Then there is *Tactics of Mistake* and the uncut version of *Dorsai*!

I'm very much in favor of the recent publishing move toward putting all available novels of a series into a single book. There have been a number of such recently, and I hope the sale of them will convince the publishers to do more.

Certainly this is a volume that should be ordered by every member of the Club.

Isaac Asimov is continuing his world-shaking epic of the life and times of Isaac Asimov. The latest in the series (which began logically with *The Early Asimov*) is **Buy Jupiter** (Doubleday, $5.95; SF Book Club, $1.98, 206 pp.). There are 24 entries, mostly short fiction, but also an article and bit of light verse; and there is the continuing story of the life of a man who has the feeling that he is at least a national resource and monument. Will Asimov overcome the machinations of editors who want him to write testimonials for their books and magazines? Will the good doctor be able to fight off the femfans who are endangering his precious body? Will Asimov discover that

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

God is a robot and find happiness on Trantor? Tune in to this continuing epic!

It's fun, really. The stories are mostly not outstanding examples of his work, but they have not been previously collected, and most are enjoyable. The commentary is uniquely his own. Anyhow, I think the idea of a science fiction writer leaving a record of his personal experience through the years with science fiction is one of considerable value to future historians. I recommend the book and look forward expectantly to *The Last Asimov*!

And finally, for the historians of our field, there's a real oldie now available for the first time in English. This is **Star (Psi Cassiopeia),** by C. I. Defontenay (DAW Books, $1.25, 191 pp.). This was originally published in French in 1854, with the subtitle, "wondrous story of one of the worlds of space," and its history is given in an introduction by Pierre Versins.

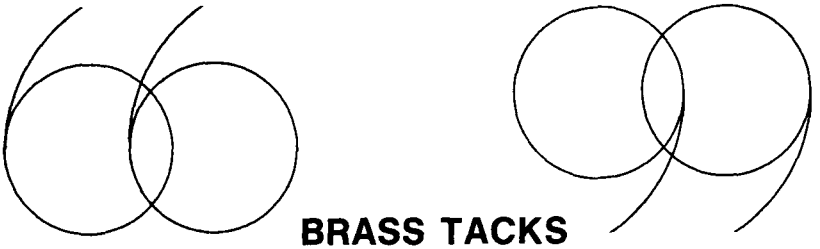
It's a curious book in many ways. It uses poetry and dramatic writing freely, mixed into its more normal narrative passages. (Don't let that stop you. The poetic passages read easily, and the dramatic selections are quite good.) It shows a sketch of an extremely peculiar stellar system—one stranger than most of those invented by later writers. And then it sets up a history and culture for this world to be found in *psi* Cassiopeia; long before most writers even considered showing any planet beyond Earth as having a real culture of its own, Defontenay was investing his invention with many of the aspects of modern science fiction.

As a novel, it may be disappointing—there isn't that much of a plot to it. But there's enough of interest in the book to make that relatively unimportant. I found it fascinating. ■

The Analytical Laboratory / November 1975

Place	Title	Author	Points
1	Home Is the Hangman	*Roger Zelazny*	1.760
2	Star Probe (Pt. 2)	*Joseph Green*	2.405
3	A Voice Is Heard in Ramah	*Spider Robinson*	3.018
4	The Cerebrated Jumping Frog	*Don Tuite*	3.658
5	To Live In Alloy Continuity	*Eric Vinicoff and Marcia Martin*	3.818

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



BRASS TACKS

Dear Mr. Bova:

I am writing this letter to complain about the story "Ageism" in your July 1975 Analog. Although I found the concept of reduction of the age of majority to be slightly humorous, I can find no real reason for your publishing such a poor story. The idea that a device implanted in children's brains speeds up their brain functions is ludicrous. I don't know enough about the brain to know if such a device is possible, but I do know enough about children (being sixteen myself and having once been younger) to know that children do not think much slower than adults; the difference is not in speed of thinking but in knowledge acquired.

Forgive me if I'm wrong, but the author of the story appears to have little, if any, feeling for children's rights. From the behavior of the man in the story, apparently the hero, Mr. Fisher never was a child—for I can find no other reason for his opinions. The feelings of some parents that their children are their possessions is as bad for the children as child beating. If Mr. Fisher has any children I can only pity them.

About the punishment of boiling in oil: children are not cruel, although there are cruel children. But the majority are not cruel, and they would probably do a far better job of controlling the few sadistic ones among them and keeping them out of high places than adults seem to do.

Although I feel that many people would happily give up their responsibilities if they could, from my knowledge of adults' opinions of children, they would be far more likely to entrust themselves into the (figuratively speaking) relatively safe hands of computers.

The rest of the July issue was great, as usual. Keep up the almost perfect work.

EARL FOGEL
803 Main Street East
Saskatoon, Saskatchewan

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Many successful science fiction stories make their points through a reductio ad absurdum *technique. "Ageism" was one of them.*

Dear Mr. Bova:

I have just finished reading your Editorial, "Energy Marketplace," in the July 1975 issue of Analog.

I agree with your conclusion that the hydrogen fusion reactor is probably the most "ideal energy source" now known to us. But I disagree with your statement that our fossil fuel supply will eventually be completely depleted.

The fossil fuels—oil, coal and natural gas—were originally made by the action of anaerobic bacteria on organic material.

Our supply of anaerobic bacteria is not yet eliminated nor is our supply of organic material. Each day, every human being generates waste organic material that is detoxified and released to the environment.

Rather than release this material to the environment we could treat it with anaerobic bacteria. The byproducts would be methane gas and a liquid residue similar to petroleum.

The methane gas could be used by the waste treatment plant for its own energy needs, and in the case of a plant for large cities, perhaps sold as an energy source.

The residue could be processed as petroleum now is for fertilizer, synthetics and energy.

By thus changing our treatment of human waste, we could have a virtually endless supply of "fossil fuel."

Granted, this method would not produce enough energy to meet our current requirements, but this change could prolong the supply of hydrocarbon energy and would result in lower pollution of our rivers and lakes because the residue would be recycled rather than dumped. A problem in this method would be the "poisoning" by industrial waste. However, this could be eliminated by running a separate sewage system strictly for industrial waste.

The method is feasible. I read, about three years ago in the *Chicago Sun-Times*, about a Chicago man who produced gasoline by a similar method, but somewhat inefficiently. The Laws of Entropy still hold. But the method could give us a breathing spell.

Present waste treatment plants could probably be converted to anaerobic treatment within five years. (Considering design, bidding, awarding and construction, and time for the bacteria to start producing in quantity.) The cost of the conversion could be amortized by the energy savings (the plants use the methane for their energy needs) and the sale of the residue of distillation to other products. This would result in another benefit, other than reduced pollution, in that the waste treatment plants could be an income source for the local government. That would result in lower taxation.

I suggested this procedure, about four years ago, to the University of Illinois at Chicago Circle. However, I was told that the technology did

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

not exist and if it did, the cost would be prohibitive.

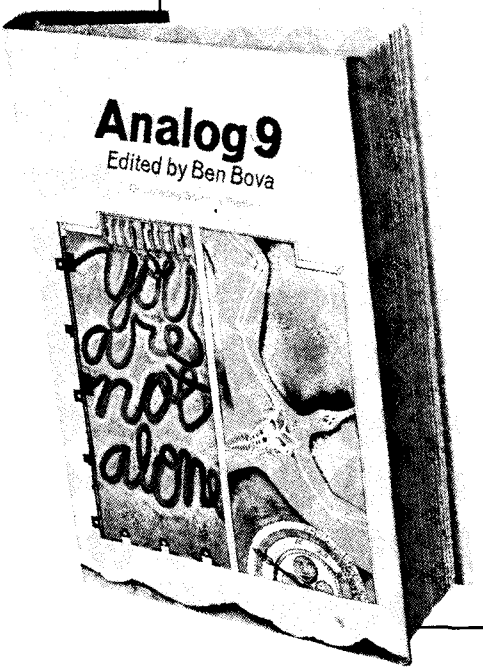
Since that man in Chicago did it, the technology must exist, and with the rising cost of petroleum products, it just may be economically feasible now.

Again, while it is not the answer to our problems, it would give us a longer breathing spell until the Federal Government gets off its duff and puts some money into research that will get us out of the corner.

JOHN R. MAJKA
8011A Montero Drive
Prospect, Kentucky 40059

Many such schemes have been proposed, and the standard answer from industry and government is, "It can't be done." Which was their pre-Sputnik attitude about space exploration. When will our "leaders" begin to see farther than their next coffee-break?

ANALOG 9
America's most exciting science fiction anthology!



This ninth anthology of the best stories from ANALOG features outstanding science fiction stories originally published in the magazine from 1970 through 1972; the last two years of the late John Campbell's editorship and the first year of Ben Bova's.

To order, send check or money order for $6.40 ($5.95 plus 45¢ for postage and handling) to Condé Nast Books Dept. A9 P.O. Box 3308 Grand Central Station New York 10017.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

EDITORIAL

continued from page 8

selves into nation-states (or the semblances of them) and proclaimed their independence. We live in a nationalized world, and the biggest threat we face is from the kind of nationalism that cannot or will not see further than its own narrow national self-interests.

Technology has certainly helped to create this "equality." Nuclear weaponry has made the biggest and most powerful nations of the world curiously impotent. America would not risk nuclear devastation to help Hungary free itself from the Soviets in 1956, any more than Russia would initiate a nuclear war over Cuba during the missile crisis of 1962. And as more and more nations acquire nuclear "equalizers" the world becomes scarier and scarier. Perhaps the real effect of the proliferation of nuclear weapons to nations such as India, Israel, Egypt, Australia, and eventually *everyone*, will be to make massive retaliation impossible.

If South Africa, for example, devastates Kinshasa, the capital of Zaire, would any of the Major Powers go to war? Or suppose Libya bombs New York? Would the US unleash a full retaliatory attack on Russia? Nuclear proliferation might force us all away from the brink of total Armageddon. It might even lead to the creation of an international force that is responsible for stopping missile attacks—if possible—and retaliating one-for-one if the first attack succeeds.

If that ever develops, for the first time in history nations will become equals under law, and nuclear missile-wielding nations will run the risk of retaliation based on the united power of the whole world.

Technology has also worked to equalize the differences between the rich nations and the poor ones, although this has happened in a negative, and quite dangerous, way.

The rich nations of today's world are the highly industrialized nations. The poor ones lack industry, although many of them control the natural resources upon which the riches of the industrialized nations are based.

International terrorists have found that the highly industrialized nations are highly vulnerable. One fanatic with a couple of pounds of plastic explosive can destroy a multi-million-dollar jet airliner and kill hundreds of people. Taking a few hostages can force the most powerful of nations to release prisoners from jail. Kidnappings can extort millions of dollars from international corporations.

Thus, by using the modern technological developments in electronic communications, compact and powerful explosives, and fanaticism fanned by modern psychological manipulations, a handful of people can hog-tie a whole nation or a multi-national corporation.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Interestingly, many of these terrorist groups are supra-national. They owe allegiance to no specific nation. Often they want to form a nation for themselves and their people. In many cases, though, they are simply against "the system" and strike out to destroy what they cannot change or control.

The relatively poor nations of the world were quick to learn the terrorist's basic lesson: that highly industrialized nations are highly vulnerable. The poor nations that have the raw materials needed by industry have begun their own form of economic terrorism: they have started to jack up the prices for their raw materials.

It may sound ludicrous to speak of the oil sheikhdoms of the Middle East as poor, but although they have a great deal of money, they are still not as rich as the average European nation. Indeed, the sheikhs are striving hard to avoid Midas' problem, and are developing plans to convert their gold into technology and real wealth for themselves and their people. It seems inevitable, looking back on history, that their people will convert this wealth into new social ideas. The sheikhs may be dooming themselves as certainly as the kings of Europe did. It will take time, and there must be some educated Arabian leaders who realize that they are destroying their ancient feudal society. If nothing else, they must have a sense of irony.

The reaction in America to the new self-assertiveness of the resource nations is to turn to technology to end our dependence on foreign raw materials. Certainly our science-based technology can produce new energy technologies that will eventually make us self-sufficient. But how far do we want to push this technologically-based isolationism?

If the basic problem of human history over the past hundred centuries has been the conflict between rich and poor, then we isolate ourselves from the poorer nations at our own peril. Take a science-fictional view of the situation: Suppose we could, through technology, make ourselves totally independent of all foreign raw materials. With fusion and solar energy we can transmute seawater into any element or compound we desire. We will live, literally, on water and sunshine, just as our chlorophyllic neighbors do.

What effect would that have on the world? Would America try to hold onto this new technology, and use it strictly for our own national self-interest? Would such a policy lead to world dominance, or world war?

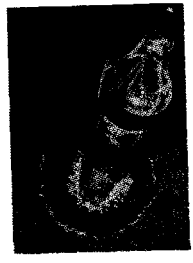
Can technology be used to equalize the gap between rich and poor nations? Between rich and poor *people*? How? When? Why? These are scenarios that science fiction writers should be exploring.

THE EDITOR

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

pick your favorite four!

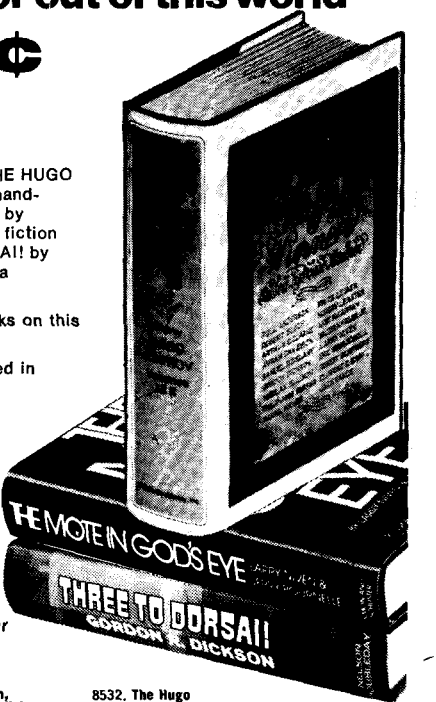
It's time for our annual cover reprint vote. We will reproduce four of Analog's 1975 covers and offer them for sale. They will be handsomely printed in full color, the same size as the original magazine cover, minus the printed overlay. With white borders, the reprints will be 9" x 12" overall, suitable for framing. But which four covers should we reprint? *You* tell us. Send a card with your favorite four to: Analog, 350 Madison Avenue, New York, NY 10017.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The very best reading in or out of this world

4 FOR 10¢ with membership



Choose any 4 books, including these science fiction greats: THE HUGO WINNERS, Volume I & II — 23 gripping short stories. A giant, handsome 864-page record of greatness. THE MOTE IN GOD'S EYE by Larry Niven & Jerry Pournelle. ". . . possibly the finest science fiction novel I have ever read."—*Robert A. Heinlein.* THREE TO DORSAI! by Gordon R. Dickson. Three complete novels by Hugo and Nebula author. Brilliant and imaginative SF adventure.

What a way to get acquainted. Browse through the list of books on this page and choose any 4 for just 10¢.

It's the most extraordinary sample of science fiction ever offered in one package.

Here's how the Club works:

When your application for membership is accepted, you'll receive your choice of 4 books for just 10¢ (plus shipping and handling). If not absolutely fascinated, return them within ten days—membership will be cancelled and you'll owe nothing.

About every 4 weeks (14 times a year), we'll send you the Club's bulletin describing the 2 coming Selections and Alternate choices. If you want both Selections, you need do nothing; they'll be shipped automatically. If you don't want a Selection, or prefer an Alternate, or no book at all, just fill out the form always provided, and return it to us by the date specified. We try to allow you at least ten days for making your decision. If you don't get the form in time to respond within 10 days, and receive an unwanted selection, you may return it at our expense.

As a member you need take only 4 Selections or Alternates during the coming year. You may resign any time thereafter, or remain a member as long as you wish. At least one of the two Selections each month is only $1.98 plus shipping and handling. Other extra-value selections are slightly higher but always much less than Publishers' Editions. Send no money. But do send the coupon today.

Science Fiction Book Club 45-S119
Dept. JR050, Garden City, N.Y. 11530

I have read your ad. Please accept me as a member in the Science Fiction Book Club.

Send me, as a beginning, the 4 books whose numbers I have indicated below, and bill me just 10¢ (plus shipping and handling). I agree to take 4 additional books during the coming year and may resign anytime thereafter.

Mr.
Mrs.
Miss_____
Please print

Address_____ Apt.____

City_____ State_____ Zip____

8037. **Again, Dangerous Visions.** Harlan Ellison, ed. Short stories and novels, 46 in all. **Explicit scenes and language may be offensive to some.** Pub. ed. $12.95

1297. **Before the Golden Age.** Isaac Asimov, ed. 26 classic stories of the 1930s, from vintage SF pulps, now in one huge volume. Pub. ed. $16.95

6486. **Midworld.** By Alan Dean Foster. The author of Star Trek Log books writes about a deadly jungle planet and descendents of earlier stranded earthmen, who fight off new human invaders. Special Edition

5587. **The Winter of the World.** By Poul Anderson. Hugo and Nebula author spins a tale of the future Ice Age and the hidden secret of the untameable and unconquerable Rogaviki people. Special Edition.

8532. **The Hugo Winners, Vol. I & II.** Giant 2-in-1 volume of 23 award-winning stories, 1955 to 1970. Asimov introduces each. Pub. ed. $15.45

7138. **Enchanted Pilgrimage.** By Clifford D. Simak. Chilling adventures of a modern man in a universe of medieval monsters and mores. Pub. ed. $6.95

3624. **Approaching Oblivion.** By Harlan Ellison. Eleven mind-spinning stories in the multi-award winner's new anthology. **Explicit scenes and language may be offensive to some.** Pub. ed. $8.95

8318. **Three to Dorsai!** By Gordon R. Dickson. Packed with adventure and brilliant imagination, these complete SF novels **Necromancer, Tactics of Mistake** and **Dorsai!** are by this popular Hugo and Nebula winning author. Special Edition.

6221. **The Foundation Trilogy.** By Isaac Asimov. The ends of the galaxy revert to barbarism. An SF classic. Comb. Price $16.85

3897. **The Mote in God's Eye** by Larry Niven & Jerry Pournelle. Man's first contact with an intelligent alien species. Pub. ed. $9.95

7112. **Fantastic Science Fiction Art: 1926-1954.** Lester del Ray, ed. 40 full-page, full-color reproductions of sci-fi magazine covers. Space ships, aliens, robots, and our heroes and heroines in futuristic costumes. Large size paperback on heavy stock. Pub. ed. $5.95

4085. **Buy Jupiter and Other Stories.** By Isaac Asimov. Here are 24 short stories that never appeared in other Asimov collections. **Buy Jupiter, Shah Guido G, Button Button,** and others. Highly entertaining. Pub. ed. $5.95

The Science Fiction Book Club offers its own complete hardbound editions sometimes altered in size to fit special presses and save members even more. Members accepted in U.S.A. and Canada only. Canadian members will be serviced from Toronto. Offer slightly different in Canada.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED